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ORIGINAL ARTICLES.

OPERATION FOR THE CURE OF HERNIA VIEWED FROM A MEDICO-LEGAL STANDPOINT.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Georgia, May 5-8, 1896.

BY HENRY O. MARCY, M.D.

BOSTON, MASS.

The revision of the duties and obligations which the medical profession owe to their constituency must be made in every advancement of science. From this standpoint it is pertinent to inquire, if the demonstration of the easy and safe cure of hernia is not sufficiently ample to demand from our profession a revision of opinion, which only a brief period since would have been accepted as unquestionable? Few will deny that every sufferer from hernia, even in its less pronounced forms, is not alone incapacitated in a considerable degree for the discharge of certain duties incumbent upon a great variety of occupations, but also that there is a recognized life risk, incident to the individual. This has long been accepted in life insurance, examinations for the public service, etc. It is also conceded that, at the best, instrumental supports are disagreeable make-shifts, and that the usual history of the subject of hernia is an increased physical disability.

From the medico-legal standpoint, may it not be considered as an open question, whether this entire class of sufferers have not rights which should be respected, when such life interests are entrusted to the watchful supervision of their medical and surgical advisers. If this be true, does the surgeon discharge his full duty to the one seeking his advice, disabled in large degree from an irreducible or uncontrollable hernia, who offers *simply* the palliation of rest, condemning the patient to the wearisome watching for relief which only death can give? If such queries throw a new light upon the ever increasing burden of responsibility, which the advancement of science places upon him who would be its exponent, what becomes the plain duty of the physician, the rank and file of the profession, who are ever in close touch with this great army of invalids, and, as a consequence, must decide promptly the course to be taken in the constantly recurring cases of intestinal obstruction caused by strangulation?

I need not cite even recent experiences to show the still high death rate in all hospital practice, occurring from delayed operations for the relief of intestinal constriction, delays made fatal not by the gravity of the operation itself, but by the conditions which render operation necessary.

The early operation for the relief of these conditions is attended by a very minimum of danger, which, however, increases in geometric ratio with every passing hour, and yet the average sufferer from acute intestinal obstruction from hernia, is liable to neglect at the hands of his medical adviser, and it is the object of this paper to emphasize this neglect as criminal before the law. There is but one duty for the physician. Immediately upon the recognition of the condition, relief must be afforded. Taxis is no longer warrantable as advised at an earlier period, since this alone often inflicts irretrievable damage upon the constricted intestine. An anesthetic should be at once administered and, if in the relaxed condition of the parts, gentle manipulation does not restore the displaced organ, the operation must be immediately performed.

It is not necessary to give examples of almost daily flagrant violation of this simple, surgical axiom. In my experience the series is long and includes many instances which have come under my observation as a consultant, where from a medico-legal standpoint, I unhesitatingly declare that the neglect of prompt surgical procedures was criminal.

Appealing to the fear of the individual is one of the most reprehensible ways of quickening his conscience, especially in our profession, the members of which are supposed to be actuated in the discharge of their duties to suffering humanity only by motives of the highest and most praiseworthy character. Courts of law are constantly dealing with questions of damage, arising from alleged incompetence, because of the improper restoration of fractures and dislocations, injuries from which a life risk may never be involved and on account of this surgeons are constantly thoughtful to guard against medico-legal complications, seeking consultation for self-protection much more than for the benefit to be derived by the patient. If this was recognized as a possible sequel to every case of the severer forms of hernia under supervision, it would be of great advantage to the patient, to the physician, and the profession at large.

The causes of hernia should be much more carefully studied and understood. A thorough anatomic knowledge of the parts involved, their functions, and pathologic changes must be acquired. Such knowledge is of the first importance in many medico-legal cases. Indeed, the general opinion is that hernia is produced by some violent strain, or accident, for which in the general mind the term rupture is a synonym, that is, a sudden giving away of the parts involved. A superficial study of the case might lead one often to arrive at this conclusion. This is so exceptional that it represents a very minute fraction of the total.

I was called as an expert in court where a town had been sued for large damages, the injury claimed to have been received by a man in middle life, who, as the consequence of a fall into a hole in the street, became ruptured. The hernia was of the indirect inguinal type, and doubtless was the result of a long

series of antecedent causes, probably commencing in a congenital non-closure of the canal. Yet the jury awarded the claim and damages, more from the general belief that such injuries must be the result of sudden violence, rather than from the testimony offered.

On the other hand instances are not wanting where injuries have been inflicted upon large scrotal hernias, even resulting in death, and here may arise a nice point at law, to determine if the individual is liable to recover under such circumstances, when modern surgical opinion teaches that such a man is in daily possible risk to his life from a condition which is amenable to cure by surgical interference of moderate danger.

In this phase of the subject there is also a very constant factor of a material type represented by a money equivalent. This has its exponent in the large number of soldiers of the late war borne upon the pension rolls, disabled because of hernia. Some time ago at a meeting of a large number of surgeons, it was desired that I should give a demonstration of my method of operating for the cure of hernia before the members in attendance. A proper case was selected by a local surgeon, the man having been for years under his observation partially disabled on account of a large scrotal hernia. The suffering was freely acknowledged, the desire for relief so great that preparations for the operation had been partially arranged. It was finally refused, the sufferer admitting that the hernia was worth to him as a pensioner of the United States government $150 per year, and that he would rather endure the disability, than deprive himself of his assured income.

I have no hesitancy in declaring that it is the duty of the government to afford this large class of sufferers, free of expense, an opportunity to be cured of this troublesome and dangerous affliction, and in the event of their refusal to accept the same, order that the pensioner's name be stricken from the roll.

The statements made in this brief paper may seem radical to many, indeed to a degree revolutionary, but I offer them in the full conviction that they are the expression of a just surgical conservatism, and I believe the time is not distant when they will be accepted and amplified.

I look upon the verdict of this Section of the Association to which this contribution is offered as most important in establishing a new status of opinion upon a surgical subject which must be far reaching in results, involving not only large monetary interests but also pregnant with the salvation of many lives.

DISCUSSION.

DR. HUGHES—I think the suggestions are practical, new and destined to prove of great value to mankind. I think the surgical section ought to join in their recommendation, that the pensioners should be offered the opportunity to secure the advantage suggested in the paper. I would not say that they should be *compelled* to do that or throw up their pensions. I doubt if this can be done under the law. The Constitution of the United States provides that no man can be mutilated in any way. We used to have a law in the State of Missouri providing for the castration of men who committed rape. It stood on the statute books until some astute lawyer carried it to the supreme court, and it was declared unconstitutional.

DR. MOYER—I was glad to hear Dr. Marcy refer to the relation of accidents to hernia. More than ten cases have been sent to me for examination by attorneys, claiming that the rupture was caused by a fall or sudden injury. In nine of those cases I gave the opinion that I did not believe that injury and accident caused hernia.

Regarding the doubtful case, the rupture was not at the usual site, but was at the linea alba, midway between the umbilicus and the pubes.

Dr. HUGHES—I would like to ask Dr. Marcy whether he maintains in that paper that accidents are not frequent exciting causes.

Dr. MARCY—I do not.

Dr. MOYER—I think, however, that is the later and more general view of the matter.

Dr. HUGHES—I have always been under the impression that it is a frequent cause. Anyone who is intimately familiar with the personnel of soldiers, and has had large numbers of them to treat—I had an average of 10,000 men under my care during the war in what was called a "straggler's camp"—has doubtless had considerable experience with hernia. Men were constantly coming to me to be examined whom I had in my own command, and whom I had examined personally as to whether they had abdominal or inguinal hernia, finding them apparently sound in that regard—these very men, would develop hernia from the time they were forced suddenly to jump out of cars, owing to a surprise or an attack. I never supposed that the sudden jar was the cause of the hernia, but was the exciting condition.

Dr. BISHOP, of Pennsylvania—If Dr. Marcy's paper would convince people that the operation is comparatively a safe one, and that the danger by not having the operation is greater it would certainly be well. Trusses are as dangerous as patent medicines.

Constant tension—railroad men getting on and off trains; plasterers or painters working overhead, etc., has a tendency to precipitate this trouble. I have advised the use of suspensory bandages in such cases.

Dr. MARCY—A careful anatomic study of the inguinal canal in the male exhibits one of the most beautiful of nature's provisions for protection and safety. The cord traverses the abdominal wall in an oblique direction, so pronounced that the intra-abdominal pressure causes a complete approximation of the walls of the canal, acting always, when in the normal condition, at or near a right angle to its axis. The transversalis fascia is extraordinarily strengthened and thickened so as to produce a firm, inelastic support posteriorly, while the internal ring is reinforced about the cord in a way to prevent a peritoneal depression about its upper border. The testicle finds its way out of the abdominal cavity at such a late period of the intra-uterine life that the developmental processes, which result in the normal closure of the canal just referred to, are often imperfect. When not complete there results a depression in the peritoneum above the cord, which affords a point of yielding to the intra-abdominal pressure, although it may never result in hernia. Often this condition remains unnoticed until in a later period of life, when the muscular tonicity of the abdominal wall is lessened, a yielding occurs, and by a slow process hernia develops. This I believe to be the common cause of inguinal hernia in the male. Any one who will take the trouble to examine postmortem will note that traction upon the cord in a very considerable percentage of adults demonstrates this condition more or less marked, although it has never advanced to a degree which allows the protrusion of any portion of the abdominal contents into or through the canal. Cloquet, of Paris, in the earlier part of this century, made careful dissections of 500 cases of hernia subjects, recording minutely the conditions found. He describes and figures a condition of normal anatomy under the name of the infundibular process of the peritoneum. I can not doubt but that which he describes as normal is pathologic, and results from imperfect closure of the canal in the early months of existence.

That muscular strain of itself in the normal individual is not the cause of hernia is evidenced by the extraordinary play of muscular activities in the gymnast, who in every conceivable way exercises an enormous strain upon the abdominal wall, yet so far as I have been enabled to learn the circus athletes and rough riders of the West are not more liable to hernia than are those of less active occupations.

USE OF THE STOMACH AND RECTAL TUBE IN CHILDREN.

Read in the Section on Diseases of Children, at the Forty-Seventh Annual Meeting of the American Medical Association at Atlanta, Ga., May 5-8, 1896.

BY W. JAY BELL, M.D.

Assistant to the Chair of Obstetrics and Clinical Gynecology, Southern Medical College; ex-Assistant Resident Physician of the New York Infant Asylum.

ATLANTA, GA.

I am fully aware that the stomach and rectal tube is not so generally used in the south as in the north and northeast. Having followed their use so closely during my service on the staff of the New York Infant Asylum and since my location in Atlanta, and having such pronounced beneficial results following their use, I am constrained to present a short paper on the subject before this body.

We may well deem our age the most practical in the world's history and we find theory quickly receding to give place to the tangible and practical.

The approaching warm season causes one who handles the little ones to stop and reflect for a time upon the too often fatal ileo-colitis and gastro-enteritis. There is nothing to be found infallible in medicine nor in means; yet we must accept all available means and apply them judiciously yet assiduously.

Often one will be called in to a little patient with a history that the child takes food well, even hungrily, but in a short time suddenly vomits the sour contents of the stomach, this result following each feeding. Now, all are familiar with ferments. A fermentative state often accrues in the stomach causing fermentation of the stomach's contents with irritation and consequent vomiting, yet the vomiting does not entirely free the stomach of ferment, there being a nucleus of fungus remaining which infects the next food taken and persistent vomiting is the expected consequence. Then what steps must we take to relieve this class of cases? The cause of persistent vomiting is retained ferment. Then the most practical step will be to remove this factor of irritation. It is in this class of cases that the most happy results are obtained from a thorough irrigation of the stomach.

Imperfect digestion is frequently found in the little patient, this may be due to want of digestive power or fermentative interference with digestion. An irrigation of the stomach two or two and one-half hours after feeding and giving a subsequent rest of at least one hour will be met with gratifying results. Athreptic or poorly nourished conditions are found due to a failure of the child to take nourishment; in these cases gavage is often necessary and will often be followed with happy results. In this the same tube may be used, being careful to cleanse.

It was our custom in the New York Infant Asylum to use a tube, which consists of a funnel of glass or hard rubber, with a piece of tubing two or three feet long; to the end of this is attached a small stomach tube or large catheter having a small piece of glass tube intervening for observation. This is a complete tube for either feeding or irrigation. With tube, a pitcher of warm water and a slop jar or pan you are fully equipped. With the patient in the lap of an attendant or mother, having the face to the physician, the tube is moistened and with the left index finger as guide pass the tube steadily into the stomach; with funnel raised above the patient's head fill the stomach to full capacity and, lowering the funnel, syphon off the stomach contents, repeating this until all return is clear. After irrigation a rest of about one hour should be given the stomach before giving nourishment. Flax seed water for a few feedings is best.

Gavage is accomplished by passing the tube and pouring into the stomach the amount of nourishment desired, being careful to compress the tube and hold the mouth well open for a moment after the removal of the tube until irritation of throat passes off, which will prevent regurgitation. The stomach tube is useful in many other forms of gastric irritation, but I will not go further. It is, indeed, a most practical instrument to have on hand at all times and especially in cases of poisoning.

The rectal tube is far more generally used than the stomach tube. Dr. Seibert of New York, says that the first thing that he does when called in to a case of convulsions in a child is to draw out his fountain bag, call for a pitcher of hot water and proceeds to irrigate the colon at once. While the contents of the rectum and colon are not the sole cause of convulsions, yet such a vast majority of these cases are due to, or irritated by bowel contents that the step is a most wise one. The apparatus which I use and which is used in the New York Infant Asylum, consists of a fountain bag with a small stomach tube attached, and no better apparatus could be devised except that a return attachment may be used. The indications for the use of the rectal tube are so manifold that it would require too much time to do more than briefly refer to some of them. It is fully established that the rectal and colon contents are often most potent factors in hyperpyrexia. I have observed in a number of cases a marked fall of temperature from irrigation of the colon.

In ileo-colitis, gastro-enteritis, fermentative and catarrhal colitis, cholera infantum and other forms of fermentation and infected bowel contents, most gratifying results will often follow the use of the tube in high rectal and colon irrigation. Now, it is important that not only the rectum but also the colon should be irrigated. The tube should be passed as high up as the transverse colon which can be easily accomplished, with the child in dorsal position on slightly inclined board, table or bed, the tube is vaselined and passed with a slight rotary movement, bearing in mind the course of the rectum through the curve of the sacrum and upward over promontory to the left, and the tube will pass readily into the colon and up with ease to the transverse colon when the stream is turned on and continued until bowels are thoroughly irrigated.

Efforts to influence the fluid to pass up the colon by placing the child on left side and lowering the head and the trunk, is to me quite unsatisfactory and but slight cleansing effect can be obtained in this way, but with the tube well up into the colon, a far more satisfactory irrigation can be accomplished.

In persistent dysentery I have obtained good results from irrigation, after which inject flaxseed water with a small amount of tincture opium. In cases of gastro-enteritis I have seen splendid results

follow irrigation of both stomach and rectum and am convinced that this step would be wise in a beginning cholera infantum, using rectal irrigation quite hot for stimulating effect and to this may be added a small amount of salt and alcohol. In habitual constipation the use of the rectal tube is preferable to a too frequent use of laxatives. In this, however, a high irrigation is unnecessary. Irrigation is a step that should always be taken in cases of convulsions in children.

INFANTILE SCORBUTUS.

Read in the Section on Diseases of Children, at the Forty-seventh Annual Meeting of the American Medical Association held at Atlanta, Ga., May 5-8, 1896.

BY ALBERT H. BURR, PH.B., M.D.
CHICAGO.

Dr. William P. Northrup, editor of the chapter on Scorbutus in the "American Text-book of the Diseases of Children" (1895), says: "The reader will find in this book for the first time scurvy put down as a disease occurring in the United States." It is barely two years since he tabulated some twenty-six American cases, and directed attention to a disease of infancy hitherto overlooked in this country because of its rarity or because of failure in differentiating it from the somewhat kindred disease of rickets; since that time the interest awakened by the discussion of Northrup's papers has brought out reports of a number of cases from observers in different parts of the country. From this it would seem that the disease is assuming greater importance by reason of its increasing frequency in these days of degenerate mammæ, supplemented by the growing indisposition of American mothers to suckle their young, on the one hand, and on the other by the commercial enterprise and ingenuity of man in devising sterilizers and proprietary foods to meet a long-felt want in the failing maternal fluid and motherly instincts. Between these physical and mental degenerates and the chromo-advertised infant foods, represented as perfect(?) substitutes for mother's milk, the coming baby must run fearful odds in its unequal struggle for existence. Authorities tell us that 25 out of every 100 babies die before the end of the first year, and of these 25 only 4 die at the breast while 21 perish at the bottle. What sadder comment is to be found on modern civilization?

To W. B. Cheadle of London is due the credit of first recognizing infantile scorbutus on clinical grounds. In 1878 he published three cases on account of spongy gums, and obscure symptoms referred to the lower limbs, which he maintained were cases of true scurvy. Soon after this, Thomas Barlow commenced his postmortem investigations and immortalized his name by establishing a pathologic basis for the disorder, which German writers had described as acute rickets. The results of these valuable and conclusive labors he published in 1883 and confirmed the views of Cheadle. Barlow's classic review of the disease in his Bradshaw lecture of November, 1894, leaves but little to be added to our knowledge of this, now inexcusable and easily prevented, disease.

Etiology.—Briefly stated, he says: "The prolonged use of a defective diet induces the symptoms."

Pathology.—"The essential lesions are subperiosteal blood extravasation and its secondary sequences;" hemorrhages into the center of the shafts of the bones, producing absorption of the trabeculæ and leaving them brittle and easily fractured; effusions of blood into surrounding muscles and cutaneous tissues, with progressive anemia resulting from these multiple hemorrhages.

Diagnosis.—The diagnostic differentials between scorbutus and rickets are of chief interest and consist in the hemorrhagic phenomena and their sequelæ; the pseudo-paralysis; spongy gums where teeth are present and the rapid, almost magical improvement under antiscorbutic diet.

The following case came under my care Dec. 12, 1895:

Dorothy R., thirteen and a half months old, had been brought to Chicago from a distant State by the advice of the family physician to be treated for a supposed spinal trouble. She was placed under the care of one of our best orthopedists. The diagnosis was rachitis, with slight spinal curvature. As the child was too weak for any corrective appliances the specialist addressed himself to general tonics and restoratives with the view of improving the anemia and malnutrition. At the end of six weeks the child, which at first seemed to be materially improved, was found to be decidedly worse, and for two weeks had not been able to lift its head from the pillow. Emaciation was progressive and the specialist expressed the opinion that the case was hopeless and the child must soon die from marasmus.

The history as given by the mother was this: Up to eight months of age the child appeared well nourished and in the the best of health. About this time it became fretful, grew pale and began to lose flesh. Purple spots appeared over its shoulders, back and thighs, which suppurated and many of them were lanced, leaving marks similar to the pitting of smallpox. The lower extremities were painful on being handled and the child ceased to move them voluntarily. Its diet from birth had been Mellin's food exclusively. The mother had lost her ability to nurse on account of multiple abscesses of her breasts at a previous birth.

At this time the child was very anemic and much emaciated, weighing but thirteen and a half pounds. It could not lift its head nor move its body or thighs, and was handled on a pillow. The right femur and left scapula were perceptibly swollen. Dentition was delayed. The upper and lower middle incisors only were erupted and these were almost hidden by spongy ecchymotic gums. In the roof of the mouth was a purplish tumor with an eroded apex. The fetor of its breath was marked. The body was bathed in sweat. The stools were hard and variegated in light drab and dark slate colors, with an offensive odor like those of a carniverous animal. The child cried with pain on being handled and was fretful and wakeful during the nights. This array of symptoms completed a picture of pitiful distress.

Treatment.—The food was changed at once to fresh cow's milk and barley flour as a basis. Orange juice and raw scraped beef were given daily, which the child took with the greatest avidity. Scraped apple and tender sprigs of fresh lettuce and cabbage were also allowed by way of variety. A cool sponge bath at 75 degrees with gentle friction was given every morning for its tonic effect. To change the character of the stools and disinfect as far as possible the intestinal tract, calomel tablets, one-tenth grain, every two hours, and a powder composed of guaiacol carbonate, one-sixth grain, and protonuclein, one grain every four hours, were ordered given. Hydrolein was administered three times daily, for its alterative and reconstructive properties. The improvement even in so short a time as twenty-four hours was gratifying and astonishing. At the end of forty-eight hours the character of the stools were changed and the fetor of the breath had disappeared and the child was inclined to amuse itself. After the fourth day it could lift its head and its nights were restful. At the end of the first week all traces of spongy gums and sore mouth had disappeared and it began to laugh and crow and exercise its legs and thighs and no longer dreaded handling. At the end of the second week it had gained one pound, could lift its feet above its head for the first

time in several months. All remedies, except hydrolein and occasional doses of mild chlorid, were now discontinued. A soft-boiled egg with rolled cracker was allowed every other day alternating the scraped beef. Third week, anemia has disappeared. Can sit alone. Has erupted upper lateral incisors. Three weeks ago there was no sign of these teeth. Is taken out daily for exercise. Fourth week, has gained in weight, rolls about on the rug and tries to creep. Discharged cured and returned home at end of six weeks. A change like this after six months of helplessness and untold suffering seems little less than magical.

The points of interest in this case are: The suppuration of the hemorrhagic cutaneous lesions, which the family physician diagnosed and treated as eczema; the swelling of the femur and scapula and slight curvature of lumbar region, diagnosed and treated for six weeks by a noted orthopedist as rickets, and lastly the rapid recovery under antiscorbutic treatment.

The foremost problem in the consideration of every disease is how to prevent it. Scorbutus is a preventable disease. How shall we guard against and limit this recently diagnosed and apparently increasing disorder? We will not find it in the homes of the poor, or among the laboring classes, so often as among the well to do and in the houses of affluence, for the mothers in the commoner walks of life more uniformly suckle their babes, and this is prophylaxis. Barlow says: "In no single case at the time of the malady has the child been breast fed."

1. Woman herself should be physically prepared for better motherhood so that she may be capable of yielding her offspring the only food nature intended for it.

2. Mothers should be impressed with the fact that there is no perfect substitute for breast milk, and that next to the right of being well born, the babe has an inalienable right to nature's food, and no trivial excuse or surmountable difficulty should hazard its life or health.

3. Where for any reason the breast milk is inadequate, or has entirely failed, the nearest approach to it is to be found in the modified cow's milk of our modern laboratories, or the home modification of cow's milk after the plans given by Rotch in his most valuable recent work on pediatrics.

4. Above all, *no continuous* administration of any sterilized, Pasteurized, peptonized or condensed milk, or any dry commercial foods should be given to the *exclusion of fresh or raw elements of diet*. In what this antiscorbutic property consists, which is found in fresh foods, and lacking in the artificially prepared and manipulated foods, is not yet determined, but it is more than likely that the important offices performed by the normal germs of the gastro-intestinal tract in the complicated processes of digestion are incapable of being completed with artificial food, and thus putrefactive changes in imperfectly digested pabulum, lead to auto-infection and malnutrition.

There is a "borderland condition," as Barlow terms it, without detected lesions, a sort of *scorbutic malnutrition*, which the physician should be on the look-out for in every artificially fed infant. I believe scorbutus exists in incipient forms of malnutrition to a greater degree than is commonly apprehended. The causes must be in operation for a more or less prolonged period to produce apparent lesions. In its typical form it is rarely seen before the latter third of the first year. Happily for most bottle fed infants they are saved from the active stages of the disease by the timely admission of certain elements of antiscorbutic diet. It is to this class I would call especial attention. The physical condition of the child during the first eighteen months of its existence is of the utmost importance to its future. It is the period of most active and rapid development, and malnutrition now will weaken its vital powers of resistance for its whole life.

Some of the premonitory symptoms are fretfulness, aversion to being handled, crying out as if in pain when lifted, tenderness of the lower limbs and indisposition to move them, and progressive anemia. The diet should be investigated and appropriately regulated and the parents or others having the care of the child should be instructed as to the necessities of the case for intelligent coöperation.

If every artificially nourished babe could be carefully inspected and its diet harmonized with the cardinal principle pointed out by Barlow, Northrup, Rotch and others, a great army could be saved from premonitory malnutrition, of which the fully developed scorbutic forms but a small contingent.

2036 Indiana Avenue.

DISCUSSION ON PAPERS OF DRS. BELL AND BURR.

Dr. W. A. Dixon, Ripley, Ohio—The use of the stomach and rectal tube can not be too much impressed upon the profession. Children are badly fed, and after the stomach is once loaded and the bowel is disturbed by food that is doing injury or damage, you must or *ought* to use the stomach and rectal tubes. I use them a great deal and to a very great advantage. Dr. Burr's timely paper had reference to artificial feeding. I believe if the profession is cursed by anything at all, it is by the impression abroad that children must be fed by the bottle and by these artificial foods. I believe we are running in the wrong direction as a profession when we permit and submit to the weaning of the child, the taking away from the breast simply because we have inflammation of the breast. We ought to interfere if we are the attendant at the time of confinement; or, if we are the family physician, we ought to anticipate these troubles, we ought to step in beforehand and announce to the mother that she must be prepared to nurse her child, and portray to her all the troubles that follow if it is nursed artificially. Nothing has brought more sorrow to me in my practice than to treat children fed artificially, and hence I lay great stress upon impressing upon the mother the importance of being prepared to nurse the child at the breast, and I take great censure upon myself if I allow mammitis to follow.

Dr. Foster, Deering, Me.—I would like to ask Dr. Bell, before he goes, how often he irrigates the stomach?

Answer: In the case of imperfect digestion, the process of irrigation should be continued until you have obtained a degree of digestive power. The stomach should be tested to see that it digests the material, and the irrigation should be continued until the stomach can digest the food given. Of course, using the predigested food assists this process.

Dr. J. A. Work, Elkhart, Ind.—In this process of irrigation, I would like to ask the Doctor, does he propose to empty the stomach of everything or only undigested food?

Answer: It should be cleaned thoroughly at the time of the irrigation.

Dr. J. A. Work—How is he to do that when the child is fed upon milk and has a high temperature and the milk is coagulated in the stomach? How is he going to get the food away without emesis?

Answer: The contraction of the stomach will throw it out beside the tube as well as through the tube. If you have

reason to believe you have large clots there it is well to overdistend the stomach first. The tube then is used as an irritant and as a means to get other fluid in.

Dr. BURR—Why does the Doctor choose very warm water in preference to cold water, especially in pyrexia?

Answer: I referred to warm water in cases of depression from the cholera infantum. The hot water gives a better cleansing effect. You may have, of course, elevation of the temperature, but in cholera infantum you have no especial elevation of temperature and sometimes you have an abnormally low temperature. And certainly in those cases you would use the hot water. But outside of that there is no special reason for using hot water.

Question: What temperature?

Answer: I should use water about 110 degrees. If I wanted an effect in the reduction of temperature, I should use it cooler than that.

Dr. BURR—I believe with Dr. Bell that the irrigation of the stomach and colon is of the utmost importance in all these cases of malnutrition and indigestion, which are almost synonymous terms. But I have found the application of cold water externally and internally to be far more stimulating than hot water. I would use the cold water in colonic flushings because you can get up peristalsis better with it. The peristalsis better empties the bowel, perhaps, than the flushing itself. The peristaltic action brings matter away from far up the colon. It is a question whether you often get these tubes above one of the flexures of the colon or rectum. Now, if you have infantile convulsions, which are in a large majority of cases induced by indigestion and autoinfection and its explosive effects on the nerve centers, which are so unstable in infancy, then the cold water is doubly important. I know nothing more irrational than what I find day after day of the method of plunging the child into a hot mustard bath and putting something on the abdomen, but neglecting the importtant feature of first emptying the colon. The first step in my mind is a full cool bath if there is pyrexia, and pyrexia you will often find is the cause of the convulsions. The over-heated blood, of course, is another effect of the poison. We have the poison first, pyrexia next and convulsions third, following the effects upon the nerve centers. We should use the cold bath to reduce the temperature first, then the colonic flushing and then the stomach irrigation, and if we think there is something irritating left we should give a good old-fashioned dose of castor oil. With the other process we may have convulsion after convulsion. I have found sometimes the attending physician present, who has assured me the child has had bath after bath, and I would find the hot water there colored with mustard in evidence, and still the convulsions continued. Fifteen minutes after rational measures were used the child would be asleep.

Dr. J. A. WORK—I asked Dr. Bell the question about the emptying of the stomach because I believe the first thing we have to do as physicians in any of these acute cases is to remove the cause as soon as possible. A physician, unless he studies to do that, is not worthy the name. My friend has just given us a key-note. I have practiced that for twenty-seven years and am more confirmed every day in the belief that we are not to simply administer medicine, but we are to study the cause and remove it. That is the reason I asked the question. In these neurotic cases let us get back to the first cause, or as near as possible to the primary cause, of all the trouble. When I am called to a case of acute irritation of the intestines or stomach with rise of temperature, I first ascertain how the child has been fed. I then want to know about the elimination, because we know there are only four emunctories, or "sewers" *as I explain to the friends of the patient*, the bowels, skin, kidneys and lungs, and I inquire about all these "sewers," whether they are in proper condition or not. If I find the bowels have not moved sufficiently recently, I first secure an evacuation of the bowels and then depend largely, as to what to do next, on what is the condition of the contents of bowels passed. After the bowel is thoroughly cleansed I give the bath, not so much to reduce the temperature, but I have the patient given a washing with soap and water, for nine children out of ten need it at that juncture. After they are washed thoroughly I have them put in a well-ventilated room, and in almost every case the excitement is gone and the patient is calm, easy and on the road to recovery immediately.

Now as to the use of the rectal tube. I believe if we come to consider ourselves as an animal machine, that every thought and motion wears us out and that by reason of this we have to take food and drink, and in our younger days we are active and the activity causes increased circulation and activity of all the body, but as we grow older we are not as active and we need prompting of the elimination. We notice the little boys and girls, say 10 years old, wear out about ten pairs of shoes to our one, which shows they are more active, and they do not have the same need of prompting of the elimination. Some ask, if they begin the use of the enema or purgative, won't they have to use it all their life. But, I ask them, hadn't they better use it all their lives than to be invalids all their lives. I believe there are cases in which nothing else will do but to have elimination, either by the rectal tube or enema, every day, twice a day. Here is a proposition I want to lay down, upon which I have practiced and which I have demonstrated: The four emunctories I have mentioned must each do its work and we must not depend upon one to do the work of the other, but each must be allowed or caused to do its own work within the proper physiologic time.

Dr. H. E. GARRISON, Dixon, Ill.—There is one point brought out which I would like to notice, and that is the use of castor oil in cases of infantile convulsions. I have experimented with it for a long time. I had one boy whose diet I could not control and he would have convulsions now and then. Sometimes he would go two months before a convulsion would occur. I finally decided to give him Rochelle salts for I could not get him to take castor oil. I gave the salts in lemonade whenever he became a little constipated. Eight months have now passed without the child having a convulsion.

Dr. C. W. FOSTER, Deering, Me.—I have been somewhat interested in these papers, but it seems to me the ideas expressed have been along lines of practice in which I am not specially interested. It has been my experience usually, when I have been called, the child has had its fit or convulsion, and very rarely do I see a second or third one. They usually remain quiet until I can get a movement of the bowels by a big dose of calomel or castor oil, and certainly I have seen or thought I have seen children that have been quieted and have gone along very nicely with that method. It seems to quiet the nervous system very well. In regard to the nursing of children, spoken of in Dr. Burr's paper, in my region it is not so difficult to get healthy mothers to nurse their children, but the great difficulty arises often, I think, in urging the mother to nurse her child. We have a great many women who are mothers who are not physically qualified and I do not believe such mothers are fit to nurse their children. I believe it is often better to have the children fed with artificial food, cow's milk, than to have them nursed by these sickly, tuberculous women. I am, myself, a sample of a cow-fed baby, for I came from a tuberculous family. One thing about cow's milk, overlooked by a good many, is the difference in the milk supply of large cities and small cities and villages. I live in a small city and I believe the milk there is better when it is delivered than that milked last night or early this morning, twenty miles from the city, left at the depot, collected by milkmen, mixed together in an ice chest and delivered to-morrow morning. I do not believe such milk is good when it is deliv-

ered. That is one difficulty in feeding babies on cow's milk in the city. I do not believe milk churned a mile is as bad as milk that has been churned five or ten miles. In my early life I was on a railroad fifteen months. I had one of these delightful gravel trains, where we had to have our meals on the train. I found the milk at the first meal had become well buttered. The stomach irrigation is delightful where it can be carried out. In small cities or country, where the patient may be several miles away and we have to put up with the ordinary mother, nurse or help, it is very difficult to wash out the stomach every time the child is fed, or even to give it good rectal injections. It seems to me the sytematic bathing, the use of warm and cold baths, can be carried on in hospitals and cities, where competent help is plentiful, but such treatment is hardly applicable where we can not get competent nurses.

Dr. E. D. CHESBRO, Providence, R. I.—One point in regard to infantile scorbutus is the shrinking, anxious expression, which was particularly interesting to me. This particular symptom to which I have referred, was very striking. This child developed no subperiosteal hemorrhage so far as I could see, but she had repeated attacks of epistaxis. The Doctor referred to treatment effecting speedy cure, but perhaps the case he reported would have recovered just as quickly with a change of diet. It is a question in my mind whether drugs exert very much influence in these cases.

Dr. A. C. COTTON, Chicago—We have had some talk on scurvy lately. Last year Dr. Love had something to say, and the year before something was said upon scurvy. In illustrating a statement that he made, a medical friend of mine, in speaking of fads and the tendency to follow when anybody starts anything, said when anybody reads a paper everybody begins for the first time in his life to find he has a few cases of the same kind, rather intimating we are not all honest, and he used scurvy as an illustration. I think it has struck every one here we hear a good deal more of scurvy than we used to and we see a good deal more of it than formerly. There is a good reason for this. The country is overrun with artificial foods, persistently advertised by the manufacturers and also by physicians, who ought to know better. In some whole communities exclusive artificial baby feeding is adopted and the effect is seen in the development of scorbutic symptoms. Formerly they used exclusive milk diet, and then they died of acute milk poisoning, but they did not have scurvy. I think it is Kerr, writing upon milk, in his description says it contains living cells, aside from the proteid substances we have been in the habit of recognizing and dividing into lact-albumin and caseinogen and these living cells are directly absorbed and used in the animal economy of the infant, but are destroyed by heat, even heat sufficient to Pasteurize it. He also says, as we have heard before frequently, that the heat coagulates the albumin. We all know that even when heated to 160 degrees, some of the lact albumin is coagulated and the emulsion is thicker than before. Knowing these two facts, I do not think we should say we do not see why infants should not develop scorbutus or malnutrition on cooked food and not on raw food. I do not know anything more interesting to me than the discussion Dr. Burr brought out so well in his very concise paper.

Now as to the point mentioned by Dr. Burr and Dr. Dixon. If a woman were to come into your office and ask you to abort her, because it is a good deal of trouble and expense to have a baby and she does not want to undergo the responsibilities of maternity, I suppose about the first question you would ask her would be: Who recommended you to come to me on this errand? That is my first question, because my curiosity is excited. But it does not take long to disabuse her mind of her error in coming to you. It is possible you may show her to the door a little frigidly. Now why not show an attitude similar to that toward the woman who does not want to nurse her child? She may say she had trouble nursing her previous child, but why should we not take just as high ground concerning maternal feeding as we do in regard to this other crime? It is a crime to allow the mother to wean her baby, unless there is some thoroughly scientific reason for it. Of course we do not want a tuberculous mother to nurse her child. We have not paid enough attention to inducing the mother to produce a proper food for her baby. We should make the mother a good milker by feeding her properly and taking care of her. Rotch has said some good things in his book in regard to the management of lactation.

It may be I lack the delicacy of touch in passing the tube, but I find in the majority of cases the sigmoid flexure is an insuperable obstacle. It has been said, instead of doing as Dr. Bell suggested, to pass the tube so *easily* right up to the transverse colon and then turn on the water, if you turn on the water while introducing the tube the introduction of the tube will be facilitated.

Dr. DANIEL H. CUNNINGHAM, Chicago—As to passing rectal tubes, I have always used about a No. 8 or 9 hard rubber catheter, turning on the water immediately upon entering the rectum and directing the catheter with the finger, and have been sometimes, not always, able to pass the sigmoid flexure.

Dr. BURR—The paper I presented on "Infantile Scorbutus," was intended to emphasize the fact that we have a great deal of incipient scorbutus which does not arrive at the point of characteristic appearances, so that it can not be recognized as scorbutus but only as a tendency toward it; the child will eventually, perhaps, become scorbutic unless attention is paid to change in its diet. The question of feeding children in the city and in the country are two different questions. Our city born, city fed and bred children labor under many disadvantages the country children know nothing about. The majority of country mothers are far beyond the city mothers in the point of health. When I say a child must be breast fed, I pre-suppose a healthy mother. I would not advise breast feeding from a mother suffering from tuberculosis, syphilis, or other constitutional disease. But I believe we should make the healthy mother feel she is a criminal if she denies the child nature's food, unless there are, as I stated in the paper, unsurmountable difficulties. The question of getting pure milk in cities is one of the most difficult problems. In our city we have found necessary a well-enforced ordinance, fining milk men for furnishing bad milk, and every month some of them are brought up and fined. As to the remarks of Dr. Chesbro, about the expression of fear and timidity on the part of the child, I mentioned that in the paper. What is the cause of the fear? The child dreads to be touched. Why? Because its little joints are sore; perhaps there is hemorrhage already under the periosteum. When you find that expression, you should look out for scorbutus. Let that be one of your early symptoms or warnings with reference to the condition of the child's nourishment. Malnutrition is an omnibus word; in one child it may lead to rickets, one form of malnutrition; in another scorbutus, another form of malnutrition; in another to petit mal or epilepsy, in which the malnutrition gives expression in another way; in another it may predispose to tuberculosis. Anything which lowers the power of vital resistance will lead into one of these numerous roads from health to invalidism. I do not wish to emphasize the medical treatment of scorbutus. Undoubtedly the orange juice, raw milk and meat would have worked a wonderful change in the child. I did believe the calomel and guaiacol of value in the first few days. With reference to what Dr. Cotton said about fads, the diagnosis of the condition in this child was not a fad. The child was under the care of a physician from eight until twelve months of age, before it was brought to Chicago. A number of scars were found over the body, from the breaking down and formation of little abscesses in numerous places. But while the commercial men are distributing more and more their chromo advertisements of artificial foods,

and the mothers get recommendations from their family, friends and neighbors, as well as from the press and even some physicians, scorbutus will continue to increase. The tendency is a wrong one and we ought to call a halt with all the emphasis possible.

As to colonic flushing, I have repeatedly found my rectal tube or one of these large catheters, which serves the purpose admirably, doubled up and extruded forcibly from the bowel. It is often utterly impossible to pass it beyond the sigmoid flexure. A little postural change may assist matters very much. For instance, by having the hips elevated you may facilitate the accumulation of water in the colon and assist the peristalsis. I prefer cool water, at 80 or 75 degrees.

A CASE OF CHLOROMA.

Read in the Section on Ophthalmology, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY S. C. AYRES, M.D.

CINCINNATI, OHIO.

It is possible that the subject of chloroma is as new and rare to many of you as it was to me when the case I have to report came into my hands. It only came into my service at the Ophthalmic Hospital because the neoplasm had invaded the orbits and produced a marked exophthalmus. In the *American Journal of Medical Sciences* for August, 1893, appears a paper entitled "Chloroma and its Relation to Leukemia," by Dr. George Dock, of Michigan, in which he reports a case. He has examined the literature of all languages and collected, including his own, seventeen cases of chloroma.

Edward Ludwig, aged 7, was admitted to the Ophthalmic Hospital May 18, 1893. His parents are living and in good health. There are five other children in the family, all of whom are healthy.

Previous history.—He has always been a bright, intelligent boy and has never suffered from any serious illness. He has had repeated attacks of parotitis (?) and the present trouble seems to have followed one of these attacks. He at first complained of pain in both orbital regions and at the same time both eyes seemed to be more than usually prominent. After a week or more, his mother noticed some impairment of his hearing, which slowly increased. The exophthalmus increased more rapidly. He became very weak and somewhat emaciated, and complained of a severe pain in the left foot, on account of which he was unable to walk.

Upon his admission into the hospital both globes were very prominent, but the right more so than the left. It was with difficulty that he could close the lids of the right eye over the ball. The corneæ are clear and there is no impairment of vision. The conjunctivæ of both eyes are red and chemotic. The motility of the eyes is unimpaired. In the upper and outer portion of the right orbit can be felt a dense, inelastic growth which protrudes beyond the edge of the bone. A similar growth can also be felt in the left orbit, but not so pronounced. The optic papillæ are somewhat pale, but there are no other alterations in the fundus of either eye. His hearing is so much impaired that he has to be spoken to in a loud tone. Pulse 120 per minute; temperature normal. There is no lesion of any of the cranial nerves. Muscular power and sensation of both upper and lower extremities normal. Pressure on the sole of left foot produces pain, but there is no redness or swelling in this locality.

May 21. The proptosis of the right eye has increased, but that of the left is apparently slightly less. There has developed a swelling in both temporal regions. They are rounded and elastic, without any sensation of fluctuation.

May 23. Protrusion of both eyes increased; corneæ hazy and covered with inspissated mucus.

May 27. Temperature normal; pulse 120. Patient complains of some difficulty of micturition; later on, retention of urine. Both corneæ are quite opaque. The swellings in the temporal regions more pronounced. There has developed a hard, firm swelling in the region of each parotid gland. Intelligence good; hearing somewhat improved. Pain in foot still present. No appetite. The exophthalmus of both eyes increases day by day. Both globes are now forced beyond the palpebral fissure.

June 2. Condition worse in all respects. He has had a severe hemorrhage from the conjunctiva of the right eye.

June 5. Died this morning as result of hemorrhage from the conjunctiva of the right eye.

Three days before death, blood pale and watery. Staining according to the Ehrlich method showed a marked increase in the number of white blood corpuscles, the increase being due principally to the number of multinuclear cells, while the small lymphocytes and those white cells characteristic of splenic and myelogenic leukemia are not increased. Eosinophile cells are sparingly present, not above 2 per cent. The examination of the blood at this time justifies the diagnosis of leucocytosis only, and not leukemia. Furthermore, an examination of the patient revealed no enlargement of the lymphatic glands except those of the neck.

The postmortem examination was made about twenty-four hours after death: Body fairly well developed and nourished; postmortem rigidity well marked, the upper and lower extremities normal. No evidence of subcutaneous hemorrhages. Marked swelling of

the lymphatic glands about the neck. Both eyeballs protrude to such an extent that they are only partly covered by the eyelids; sloughing of both corneæ. Traces of blood about the eyes, mouth and nose. Mucous membrane of mouth swollen; teeth covered with blood. To the touch the lymphatic glands are firm and resisting, with no sign of fluctuation. A small nodular infiltration over the right parietal bone near the median line. On cutting through this swelling it was found to be situated beneath the periosteum, and although there was no evidence of its having arisen from the bone, the latter was at this point remarkably thin. No trace of inflammation or infiltration of the pia mater or the brain. The brain was found to be intensely anemic. On removing the brain the orbital plates were seen to bulge upward owing to the pressure from within. After removing the very thin orbital plates, both cavities were found filled with a firm, solid, and somewhat elastic mass of a light greenish color, which pushed the eyeball forward. This mass was removed with some difficulty, although

only at one point did it seem to be firmly adherent to the periosteum lining the orbital cavity. Here the bone was somewhat eroded. Behind, the new growth extended to the sphenoidal fissure, surrounding but not involving the optic nerve. In front and above, the newly formed tissue extended to and a little beyond the orbital arch. On superficial examination the new growth seemed to be confined to the orbital cavities; a further examination showed this not to be the case, for the cancellous tissue of the sphenoid and the petrous portion of the temporal bones were softened and infiltrated with a dirty greenish-yellow fluid, looking very much like pus. On the left side in the petrous portion of the temporal bone was an area in which the bone tissue was completely destroyed and filled up with a material such as was found in the orbits, differing from it only by being of a more dirty greenish-yellow color, and not quite so firm. The lymphatic glands presented the same appearance in section as did the tumors of the orbits.

Equally as interesting proved the further examination of the new growth. On having placed the tumor in alcohol, the color disappeared entirely within twelve hours. On the other hand, the specimen kept within a tightly corked bottle, still retains the greenish color; in fact, the color has become even more marked. Some of the fresh fluid taken from the interior of the sphenoid bone was examined, but revealed only the presence of large numbers of small corpuscles, fat globules and granular detritus.

The section of the tumor after being hardened in alcohol and ether seemed to justify the diagnosis of sarcoma, the cells being almost entirely of the small round variety, none or very few spindle cells, and remarkably little intercellular substance; no large blood vessels, but numerous lymph spaces. Furthermore, the small round celled infiltration extended into the upper eyelid down to the yellow elastic cartilage.

The seat of the tumor, the peculiar color, the history of the growth, the remarkable involvement of the lymphatic glands, the results of the microscopic examination, make this case one of a few that have been put on record under the head of chloroma cancer vert, the green cancer of the French.

Whether the form of tumor should be called a sarcoma, whether it is of the so-called connective tissue variety, or on the other hand, as Dock would seem to believe, a peculiar condition arising in the course of true leukemia, the tumors being regarded in this case as lymphomata—these are questions which the future must decide. Dock and a number of others have found by an examination of the blood that they were contending with true leukemia. My examination of the blood, as already described, showed a remarkable increase of white blood corpuscles, but they were indicative only of a marked leucocytosis, and not a true leukemia. This examination was made three days before death. However, there is still a great deal of obscurity about leukemia as to its true nature, and when we consider that some writers have suggested the name of sarcoma of the blood for this disease, we can not wonder that in the case of chloroma the pathologic conditions found were suggestive of leukemia.

I am greatly indebted to Dr. Greiwe for the above report of the postmortem and of his microscopic examination of the growths. His views, while they may differ from other investigators', are founded on examinations made of the neoplasm removed from different localities. It is very unfortunate that the portmortem did not include the thoracic and abdominal cavities. A more complete examination might have thrown some light on the tissues invaded by this strange disease.

In all the prominent diagnostic points my case seems to correspond with the one reported by Dr. Dock, as well as most of those he has so carefully collected.

Color.—In color it was a yellowish-green, or perhaps a pea green. It did not vary much in the different localities, but was more pronounced in the larger masses.

Consistency.—This differed in different localities. It was homogeneous and without fibrous septa. I have described the cut masses as presenting a smooth, shining, jelly-like appearance.

Involvement of periosteum and bone.—Most of the cases show involvement of the periosteum, and in this case it was marked, but more than this an actual softening of the bone. Dr. Greiwe in his report says that "the cancellous tissue of the sphenoid and the petrous portion of the temporal bones were softened and infiltrated with a dirty greenish-yellow fluid, looking very much like pus." On the left side in the petrous portion of the temporal bone was an area in which bone tissue was completely destroyed and filled up with a material such as was found in the orbits, differing from it only by being of a more dirty greenish-yellow color, and not quite so firm.

Duration.—From the report of the mother it seems that she noticed the exophthalmus only four weeks before she brought him to the hospital. He died in two weeks after he was first seen. Allowing two weeks to elapse in which the changes were not detected by the parents, the disease ran its course in the short period of two months. After he was first seen the growth was exceedingly rapid and could be noticed day by day.

Hemorrhage.—Epistaxis is mentioned as occurring in some of the cases of chloroma reported. In Ludwig's case there was severe hemorrhage from the conjunctiva of the right eye. This occurred in my patient the day before he died, and then on the following day recurred with such violence as to destroy his life.

Retina.—The eyes were carefully examined and no swelling of the optic discs and no retinitis was found. The discs were pale and anemic, but not atrophied. His vision was good. In a short time the cornea became so involved that further inspection of the fundus was impossible.

Exophthalmus.—This was pronounced and was the first symptom that attracted the attention of his parents. The engraving shows his appearance a day or two after he was first seen. It was made from a photograph taken by Dr. Arch. Carson, to whom I am indebted for his interest in the case. The exophthalmus increased slowly in both eyes, but more in the right, and in a week from the time he was first seen the proptosis was so great that he could not close the eyelids, and in consequence the cornea ulcerated.

Exciting causes.—There is no known exciting cause in this case, but his illness followed an attack of parotitis. His mother said he had had several attacks of so-called parotitis. It is not probable that these attacks were true mumps, but precursors of the development of the disease.

Deafness.—Deafness was a marked feature. It

varied slightly in severity from day to day, and it was always necessary to speak to him in a loud tone. He had no catarrh and there was no otorrhea. The drum membranes were not examined.

Dr. Dock says: "From what we do know of the natural history of leukemia and of chloroma we can see the analogies of the diseases. We can say that chloroma is a lymphomatous process similar in its clinical features to leukemia and pseudo-leukemia. Our ignorance of its precise relations depend partly on the fact that our knowledge of chloroma is very incomplete, partly on the indefinite nature of leukemia and pseudo-leukemia."

OBSCURE CASES OF OPTIC NERVE ATROPHY OF CEREBRAL ORIGIN.

Read before the Section on Ophthalmology at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY CHARLES W. KOLLOCK, M.D.

CHARLESTON, S. C.

Affections of the brain proper that might cause atrophy of the optic nerve are very numerous, but in a majority of cases the disease which produces the optic neuritis causes the death of the patient before atrophy takes place, or can be recognized by the aid of the ophthalmoscope. The cases who can survive the disease sufficiently long for the nerve to become atrophied are usually too obscure in many instances for human ingenuity to explain, and though the neurologists of to-day are wonderfully accurate in their knowledge of this complex organ—the brain—still in very many cases their conclusions must be purely problematical. When we remember that a tumor growing in the brain tissue may produce optic neuritis in one case, and in another death may occur without an eye symptom having been seen, we may readily understand the difficulties of accurate diagnosis.

Lesions at the base of the brain will be followed by characteristic symptoms according to the parts involved and compressed, but it does not follow that atrophy will occur merely because there happens to be a growth, an aneurysm, or even a thickening of the meninges at this locality. Meningitis, when not fatal, often involves the optic nerve and its sheaths and atrophy gradually supervenes, but such cases are not obscure. The history will often give a thorough insight as to the cause of the consequent atrophy.

Lesions of the copora quadrigemina are rare, and cause blindness, loss of pupil reflex, strabismus and nystagmus when the anterior pair, and loss of coördination when the posterior pair are effected. But both pairs usually become involved and when a defective action of the same branches of the oculomotor nerves on both sides is seen it is more characteristic of quadrigeminal disease than is neuritis, choked disk, or atrophy.

Atrophy from anemia is more common after severe hemorrhage rather than from inanition. Von Graefe usually found atrophy coming on some time after hemorrhage took place and Schweigger says, that the loss of blood and disease of the optic nerve are wholly unexplained and can not be due to simple anemia. Jaeger has described atrophy of the optic nerve that follows hemorrhage. Soon after the hemorrhage occurs the vision becomes indistinct, it may improve or become worse according to the nutrition of the patient, but after repeated hemorrhages amblyopia increases and vision is lost. The disk is pale and bluish in appearance, the sclerotic band is broad, and the remainder of the eye ground is very pale and the vessels smaller than normal. Fries says that 35 per cent. are due to hemorrhage of the stomach and intestines, 25 per cent. uterine, 25 per cent. from abstraction of blood, 7.3 per cent. due to epistaxis, 5.2 per cent. to bleeding wounds and 1 per cent. to hemoptysis and urethral hemorrhage. Tumors pressing upon the cerebral blood vessels and anything that interferes with the circulation in the brain may cause atrophy of the optic nerve, but it is more than propable that death would occur before the atrophy became apparent.

Embolism occurs generally in young persons and is caused usually by a diseased condition of the heart valves; rarely from thrombosis of the veins of the lower limbs, and still more rarely from myocarditis, that causes a rupture of the endocardium. It may also be caused by an atheromatous degeneration of the inner coats of the aorta, and form gangrenous or other processes in the lungs; by tumors that press upon and produce inflammation, and finally form wounds. The middle cerebral artery is most often plugged, which does not immediately produce atrophy but more likely a softening of the brain that may eventually involve the optic nerve and cause atrophy.

Thrombosis comes from atheromatous degeneration of vessels and is more frequent after middle life. There are generally prodromal symptoms and it is at times very difficult to distinguish between this lesion and cerebral hemorrhage, but recovery rarely takes place after the former. The mental powers gradually fail and the patient finally becomes demented. Atrophy is rare from this lesion.

Cerebral aneurysm.—Optic neuritis is uncommon after this lesion and therefore atrophy is also rare, except perhaps in some cases where there may be direct pressure upon the optic nerves or chiasma. Optic neuritis has been occasionally seen when there was an aneurysm of the internal carotid and was then double. Loss of sight in one eye, sometimes extending to the other, with, or especially without, optic neuritis, with or without loss of smell on the side affected, occurs in aneurysm of the internal carotid or anterior cerebral artery; and the distinction between the two depends on the presence or absence of paralysis of the other nerves of the eye ball first affected, which occurs especially when the aneurysm is of the internal carotid. Cerebral aneurysms occur usually between the ages of 10 and 60, rarely before or after, and as often before 40 as after, and more frequently in males than females.

Cerebral abscess occasionally causes optic nerve atrophy by extension of the inflammation to the nerve or its involvment by the consequent softening of the tissues. Abscess of the brain is generally due to injury or suppurative inflammation and is more common among males than females; 42.5 per cent. are caused by ear disease; 24 per cent by injury and the remainder are due to diseases of the nose, orbit, non-traumatic causes and tumors. It occurs in males and females in the proportion of 3 to 1: 1 to 9 years, 24 cases; 10 to 19 years, 48 cases; 20 to 29 years, 73 cases; 30 to 39 years, 29 cases; 40 to 49 years, 26 cases; 50 to 59 years, 16 cases; 60 to 69 years, 7 cases; 70 and over, 1 case.

Optic neuritis is less common than in tumor. Loca-

tion does not affect the neuritis and loss of sight is probably due to neuritis as vision is rarely affected by the abscess itself.

Multiple sclerosis occurs at all ages but more frequently in the first half of adult life, between the ages of 20 and 30 years. It may affect any portion of the brain, hence the symptoms vary. The cranial nerves are often affected, especially the first, second, third, fifth and seventh. Loss of muscular control is a common and early symptom, movements are peculiar and jerky but cease when the parts are at rest. Nystagmus is very common. The "eye symptoms are frequent and important. The optic nerve may suffer in various ways. There may be impairment of sight in one eye or both, often with an irregular contraction in the field of vision, and without at first any visible changes in the optic nerve to account for it. This condition depends upon the development of an islet of sclerosis in one or both optic nerves, or in the chiasma. It may progress almost to complete blindness of one eye. After a time secondary atrophy supervenes, and can be seen with the ophthalmoscope; occasionally the atrophy is preceded by slight neuritis, when sclerosis is near the eye ball. In some cases again there is a primary atrophy of the optic nerves, exactly like that which occurs in tabes, with a similar failure of sight, proportioned to the visible alteration in the nerve. Both eyes usually suffer, but one is often affected earlier than the other. This complication is, according to my own experience, rather more frequent than the form first described, and is of much pathologic interest." There is at times loss of accommodation, less frequently light reflex and the pupils may be unequally dilated.

Bulbar paralysis or labio-glosso-pharyngeal paralysis occurs generally in the second half of life and in males oftener than females. The causes are obscure; sometimes mental depression and anxiety, exposure to cold, debilitating influences and injuries, as blows upon the back of the neck. Optic nerve atrophy is of rare occurrence in this disease and of course when it occurs the symptoms of the disease would be a guide in diagnosis.

Paralysis of the insane, general paralysis.—Vision is frequently affected by this disease, the ophthalmoscope showing choked disk or consecutive atrophy according to the stage of the affection. General paralysis is a disease of the well-to-do, the rich rather than the poor, and occurs generally among those who live a busy, hurrying life rather than among those who reside in rural districts and lead quiet lives. It is often seen in the highly educated, in males oftener than females and about the prime of life. Hot climates, certain pursuits and excessive sexual indulgence are known to be exciting causes. Child-bearing and over indulgence in alcoholic liquors may also be a cause. It frequently follows or is associated with locomotor ataxia. The symptoms of this disease are so well known that it should not be difficult to diagnose the cause of the optic nerve atrophy. In addition to the general symptoms there may be at times dilatation of the pupils, myosis usually occurring at an early stage, but a difference in the size of the pupils is still more definite. The "Argyll-Robertson pupil" is often seen; these symptoms usually occur in other diseases of the brain and are chiefly valuable as indicating central disease. The cause of this disease is "a progressive degeneration of the encephalo-spinal nervous system attended by subacute inflammatory changes in the membranes of the brain and cord." Atrophy of the optic nerve in this disease may be distinguished from that caused by tumor of the brain, syphilis of the brain, etc., by the absence of the symptoms that indicate those lesions and especially from the latter by the failure to get improvement by the use of mercury and iodid of potassium. Treatment is of no avail in this form of atrophy.

Brain tumors cause diffused symptoms, headache, vertigo, vomiting, general epileptiform convulsions, apoplectiform attacks, psychic disturbances and choked disk. Choked disk is found more frequently (54 per cent.) in cases when the tumor involves the corpora quadrigemina. Direct pressure on the optic tract causes atrophy, at times, without choked disk. Tremors and localized spasms are valuable diagnostic signs, because, first, they are more frequent with tumors than other lesions; and second, they are more frequent in the cortex; third, more frequent in the motor zones. In more than one-third of all cases localized spasms and contractions exist at some time during the disease and when present they indicate localization in the cortex oftener than elsewhere, next the corpus striatum and optic thalamus. Paralysis is gradual and distinguishes it from hemorrhage. Tumors of the corpora striata, corpora quadrigemina and lenticular nuclei cause hemiplegias more slowly than hemorrhage. Disturbances of vision are very frequent as symptoms of brain tumor: 1, atrophy of optic nerve following choked disk; 2, deviation of the eye ball or eye lids from isolated or combined paralysis of the nerves supplying the ocular muscles, the third, sixth and seventh; 3, amblyopia, or amaurosis, resulting from direct affection of the optic nerve in its course through the cranium, or at its cerebral centers, the mode of development being, therefore, almost precisely analogous to that of paralysis of any of the nervous tracts by direct compression. The optic chiasma or nerve is liable to pressure from tumors arising from the base of the cranium or from the hypophysis, and also from the peduncles. Hemiopia is produced when one tract or one side of the chiasma is compressed. Tumors of the thalamus do not often cause blindness. Tumors of the corpora quadrigemina have a much larger percentage of blindness than those of any other part and those of the cerebellum come next.

THE DIFFERENTIAL DIAGNOSIS BETWEEN SIMPLE GLAUCOMA AND OPTIC NERVE ATROPHY.

Read in the Section on Ophthalmology at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Georgia, May 5-8, 1896.

BY B. ALEXANDER RANDALL, M.D.

Ophthalmic and Aural Surgeon to the Methodist and the Children's Hospitals, etc.

PHILADELPHIA, PA.

At first thought little difficulty would seem to present itself in differentiating simple glaucoma from optic atrophy, and in the majority of cases any careful student ought to succeed. A table can easily be constructed, giving the typical like and unlike symptoms with such clearness of "deadly parallel columns" as to make the tyro sure that only a blockhead could err. Yet some or all of our differentiating signs are at times lacking or doubtful, anomalous or casual complications are encountered, and experience teaches that the best-posted observers are tried at

times to the uttermost by the uncertainties of some cases. And when a case passes from one to another with varying diagnosis, the later student will do well to temper his self-gratulations by remembering that the cardinal symptoms may have been wholly masked before, and better fortune rather than superior skill has given him the advantage.

It behooves us, therefore, to study out, with all care, every detail, even in cases that appear perfectly clear; for most of us have had patients in whom at one time no trace of glaucoma has been detected, while shortly afterward they have presented themselves with so marked a stage of the affection as to convince us that exhaustive study ought earlier to have recognized it. I shall not soon forget two ladies sent me, about the same time, by one physician, each of whom had full development of glaucoma in the left eye when they returned two years later. One had rainbow vision, that made my study exhaustive, though vain for other symptoms; the other had no suggestions of it. Both were irretrievably neglected, when seen again. Such cases passing into other hands must arouse doubts of the competency of the earlier adviser, unless there is full and frank communication with him. On the other hand, optic atrophy may strongly suggest glaucoma and lead to a tentative or positive suggestion of iridectomy which the subsequent history shows to have been groundless.

In simple glaucoma and optic atrophy we may usually find the contrasted symptoms of the following table; but it must never be forgotten that they may be wholly absent, or obscured if present.

TABULATION OF SYMPTOMS.

Simple Glaucoma.	Optic Nerve Atrophy.
Tension increased.	Normal.
Cornea hazy and anesthetic.	Normal.
Anterior chamber shallow or obliterated.	Normal.
Iris atrophic and discolored.	Normal.
Pupil dilated and sluggish or fixed.	Small or dilated (Robertson).
Reflex yellowish-green, "glaucous."	Normal.
Perforating vessels dilated and tortuous.	Normal.
History of pain and obscurations.	Painless loss.
Unilateral character usual at first.	Bilateral generally.
Limitation of field usually to nasal side.	Concentric limitation.
Color-fields commensurate to form-fields.	Disproportionate loss.
Rainbow-vision about lights.	No halos.
Knee-jerks unaffected.	Often lowered or lost.
Optic disc cupped, margins overhanging.	Dished, margins shelving.
Halo of choroidal atrophy usual.	Halo rarer.
Nerve-tissue greenish in shadow.	Nerve bluish-gray.
Arteries and veins pulsating.	Arterial pulsation rare.

The cardinal symptom of increased tension is variable and often uncertain. Hardly any two observers will exactly agree as to the tension of an eye, and a rigid sclera, a tense eyelid or a rude touch may easily cause error. Palpation had better be done with the index fingers of both hands applied to one eye at a time and then transferred to the other for comparison. In doubtful cases it may be done upon the uncovered sclera, but it is usually better to have the patient look very far down and palpate above the tarsal cartilage. If there are intermissions in the symptoms, we may expect to find corresponding falls of the tension to the normal. With a shrinking patient the surgeon must be gentle and not over-endowed with thumbs. The superficial corneal haze, which gives it a slight "pin-stuck" appearance like ground-glass or a mirror that has been breathed upon, may be a very delicate change and, like the anesthesia, demand close observation to detect it. It is doubtless due to edema of the epithelium and pressure upon the nerves. Though most marked near the pole, it is nearly uniform, in contrast to more localized keratitic changes. Individual differences in the depth of the anterior chamber, with a tendency to shallow with advance of life, must be taken into account; and the pressing forward of the lens is not usually very marked, but the appearance of the iris is usually quite characteristic. Altered color, vague detail of the surface or irregularities of structure and a general suggestion of atrophy are rarely lacking, and can easily raise a question as to iritis present or past, by the peculiarity of some of the changes. So too the pupil, semi-dilated and fixed as a rule, oval oftener than round, at best sluggish and imperfect in action — it is generally more abnormal in even the beginning of glaucoma than it becomes in any but the last stages of optic atrophy. The peculiarities of action to accommodative stimulus but not to light, which Argyll-Robertson pointed out; the hemianopic reflex of Wernicke; the consensual action of an iris otherwise immobile, are rare in any glaucomatous phase, and may be determinate of the character of the nerve degeneration which we generally have to diagnosticate largely on negative data, by exclusion. The yellowish-green reflex, often seen in the pupil of the glaucomatous eye, may have some counterpart in the opalescent haze of the lens in the patient with atrophic nerves, who is usually well advanced in life and has more or less arcus senilis and other diminutions of the transparency of his media. Yet it joins in the formation of the external picture of glaucoma which the skilled observer can often recognize at a glance, although analysis of its details shows each of them so vague as to bring doubt as to its real existence. Rarely lacking, however, to complete the picture and demonstrate the congestion of the ciliary vessels is the turgid, dark fullness of the perforating veins as they emerge from the sclera, several millimeters back from the cornea, and meander beneath the conjunctiva. Many conditions of ciliary congestion are marked by the undue prominence of these vessels; but in none of the active conditions are they as marked as they usually are in simple glaucoma. Other injection of the anterior segment, such as may be great in the acute and subacute glaucomatous attacks, may be wholly lacking in all phases of simple glaucoma, and yet the observer will hardly fail to receive an impression of congestion, out of proportion to the expanse of these vessels.

The history ought to help the diagnosis greatly, by the statement of pain in the eye, hemicrania or "neuralgia," coincident with the periods of obscuration and heralded by rainbows around the light. Both affections are likely to be bilateral, but in optic atrophy the second eye follows but little behind the other in its decline; whereas years may intervene before the glaucoma that has blinded one eye manifests itself in the other.

Mensuration of the visual field should never be neglected, and although its showings are never to be accepted as pathognomonic, much can generally be learned from the charts thus obtained. Color-vision is generally much lowered in optic atrophy, red and green even wholly lost or presenting very restricted areas of perception, with scotoma regions, where the recognition is weak, if not quite lost. The form-field

is more commonly restricted uniformly in the spinal and some of the cerebral cases, although hemianopsia and quadrant defects are not unusual, and may be very helpful in localization of the underlying lesions. In glaucoma the general form-field suffers proportionately more and may be narrowed down, more especially on the nasal side, until mere central vision remains, and the patient "sees as through a gun barrel."

The knee jerks and other tendon and muscle reflexes are well worthy of careful study in a number of our eye cases, but especially in any where plantar numbness, lancinating pains in the extremities and imperfect station or coördination suggest spinal disease. None of these defects are to be expected in glaucomatous conditions, although it is not impossible to have glaucoma attack an individual giving such evidences of lesion of the cerebro-spinal axis.

It is to the ophthalmoscope especially that we turn, however, for our diagnosis in many of these uncertain cases. Here the picture may be unmistakable, when much was doubtful in all other directions. Yet we can be over-confident as to its help, and find a picture that is almost typical of glaucoma when none is present, or that gives no confirmation to a diagnosis that is unmistakable in spite of such negative findings. It is easy to make a set of diagrams, as does Fuchs, to define the difference between physiologic, atrophic and pressure excavation of the nerve head; but in fact we may meet combinations or transpositions of such appearances. Jaeger's admirable atlas gives us some of the puzzling findings, while others have probably never been reported. The total cup, with overhanging edge and greenish shadow, may seem typically present in cases with normal fields and perfect central vision; and we look again in a vain effort to see where healthy nerve fibers can find a place at the margin of such a disc. So, on the contrary, we may find not only acute, but chronic glaucomas, in which neither the ophthalmoscope nor even anatomic study later, under the microscope, can demonstrate superficial cupping nor underlying depression of the lamina cribrosa. Most trying is such an inconclusive or contradictory finding in such cases where one eye has already been lost by unmistakable glaucoma, and the other is affected, but with a condition too little defined to make us positive in deciding either for or against iridectomy.

NOTE.—Numerous original illustrations of the typical and the contradictory appearances of eye grounds, fields and anatomic sections were thrown upon the screen with the stereopticon.

SPONGE GRAFTING IN THE ORBIT FOR SUPPORT OF ARTIFICIAL EYE.

Read in the Section on Ophthalmology, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY E. OLIVER BELT, M.D.

WASHINGTON, D. C.

PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, HOWARD UNIVERSITY, AND OCULIST AND AURIST TO FREEDMEN'S HOSPITAL.

To a skilled oculist the ordinary enucleation of an eyeball is one of the simplest operations he is called upon to perform, and yet there are some cases in which so much of the conjunctiva is destroyed by careless or ignorant operators, that it is impossible for an artificial eye to be worn afterward. This is very annoying to a patient, and we can not blame him if he never forgives the doctor who has so afflicted him. Such cases emphasize the fact that it is the duty of the surgeon not only to operate skillfully for the immediate relief desired, but he should do everything in his power to prevent disfigurement, and when an organ or limb can not be restored to usefulness, he should at least obtain the best cosmetic results possible. After an eyeball has been removed and an artificial eye inserted, very frequently it is not as prominent as the natural eye. It has a sunken appearance which attracts attention, at once, to the fact that the eye is artificial. To remedy this defect has been a problem for ophthalmologists for years.

One of the most satisfactory operations heretofore practiced is that known as Mule's operation, which consists in the evisceration of the contents of the eye, and the insertion of a hollow glass globe in the sclerotic. This is sewed in, and proves fairly satisfactory, but there is some danger of the globe being broken, and occasionally the stitches come out and the globe escapes. There is also the risk of sympathetic ophthalmia, where the entire eyeball is not removed. To obviate these difficulties and at the same time secure a full orbit, I have devised a method of sponge grafting which seems to meet the requirements without the disadvantages of other methods.

The operation is a simple one and is performed as follows: The eyeball is removed by the ordinary method under strict asepsis. After all hemorrhage is arrested the socket is washed out with a formalin solution, 1 to 1,000, followed by sterilized salt solution. A globe of fine, soft sponge, about three-fourths the size of the eyeball, previously sterilized in 5 per cent. formalin solution and rinsed in the salt solution, is then inserted into the socket, or capsule of Tenon. The conjunctiva is brought together and sewed with rat-tail sutures. The eyelids are then closed with compress and bandage. In a few weeks the sponge is filled with new tissue, which in time becomes firm, solid flesh, making a full orbit and a fine support for the artificial eye. The sponge fibers are apparently absorbed.

I have performed this operation in five cases with fairly good results in all, but union of the conjunctiva has not been firm enough to prevent some of the stitches from breaking or cutting out and the wound gaping. In future cases, to relieve this strain on the conjunctiva and to obtain good motion of the eye, I think of uniting the opposing recti muscles with rat-tail sutures, and then the conjunctiva over that by the purse-string or subcutaneous suture. By this method we should get union by first intention, good motion of the stump and a full orbit. There seems to be no danger from infection of the sponge, for in two cases the eye was removed for panophthalmitis. Not only has this operation advantages over other methods in recent cases, but in old cases in which the eye was removed months or years ago, where there is this sunken appearance of the artificial eye, the socket might be reopened and a sponge inserted.

Since making my investigation, I find that Prof. D. J. Hamilton of Edinburgh practiced sponge grafting for old ulcers in 1880, since which time a few other physicians have tried it in fresh wounds and some other similar conditions that skin grafting has been used in. However, I can not find in all the medical literature in the library of the Surgeon-General's office any mention of sponge being used as I have suggested and tried.

Case 1.—E. L., colored, aged about 30, came to Freedman's

Hospital in the spring of 1895, suffering from a ruptured eyeball (from a blow). Sight was entirely destroyed, and as the injury extended entirely across the cornea and through the ciliary region I advised removal of the eyeball, to which she consented. As she was willing to stay in the hospital as long as necessary and I could keep her under observation, I decided to try the insertion of a small sponge in the socket, with the hope that new tissue might form through it, as was reported to have occurred with a sponge accidentally left in the body during an operation. Accordingly, after removal of the eye, a globe of fine sponge was inserted and sewed in the socket. The sponge had been sterilized by boiling. After a few days the stitches came away and the sponge was exposed; however, there was no tendency for it to come out. There was considerable discharge and the orbit and sponge were cleansed as frequently as required. In two or three weeks about half of the sponge separated and came away. I found the remaining portion filled with new tissue and presenting a healthy granulating surface. The patient left the hospital soon after and was not seen again until a few days ago, when I found a moderately well filled orbit; the wound was entirely closed and appeared to be covered with conjunctiva.

Case 2.—April 7, 1896. A. B., right eye ruptured (eight days previously by blow) through cornea and ciliary region. Eye full of pus. Enucleated under anesthesia, socket cleansed with formalin solution, 1 to 1,000. Sponge (sterilized with 5 per cent. formalin solution) inserted and stitched in with silk sutures. April 15, sutures out, wound gaping and sponge showing full length of fissure. May 5 about half of the sponge separated and came away, the balance filled with new tissue. June 3, socket full of new tissue and wound closed. Artificial eye inserted, has good motion and no sunken appearance of orbit.

Case 3.—April 13. C. T., aged 30, eye lost seven years ago. Eyeball shrunken. Eye removed under anesthesia. Socket cleansed with formalin solution, 1 to 1,000. Sponge inserted and stitched in with rat-tail sutures. April 28, temperature normal all of the time. No suppuration. Wound healed by first intention. Smooth stump. April 30, one or two stitches out, sponge showing for one-fourth inch, but seems to be filled with new tissue. June 3, wearing artificial eye. Orbit full, has not a sunken appearance, and motion of eye good.

Case 4.—April 23. A. J., aged 30. Stuck fork in left eye one week ago. Panophthalmitis. Eye enucleated under anesthesia. Socket washed with formalin solution, 1 to 1,000. Sponge inserted and stitched in with catgut and rat-tail sutures. April 30, some stitches out and sponge showing. May 5, fissure closed again with rat-tail sutures. May 7, all stitches out again. June 3, wound gaping and sponge showing, but adherent all around and new tissue filling three-fourths of sponge.

Case 5.—April 25. M. B., aged 30. Right eye lost by purulent ophthalmia several months ago. Eye enucleated under anesthesia. Socket cleansed with formalin solution, 1 to 1,000. Sponge inserted as usual and rat-tail sutures used. May 5, doing well, but some stitches out. June 3, nearly the entire sponge is filled with new tissue and the wound closing up.

A CASE OF TOTAL BLINDNESS; POSSIBLY DUE TO AN OVERDOSE OF QUININ.

Read in the Section on Ophthalmology, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY H. BERT. ELLIS, B.A., M.D.

LOS ANGELES, CAL.

August 8, 1895, I was called to J. W., a man 34 years old. After repeated questioning of the patient and his sister, the following disconnected, incomplete and probably somewhat inaccurate history was elicited:

The young man was an accountant in the employ of one of the Texas railroads and had been with them for years, although for some time he had been an opium, whisky and tobacco habitué. The first habit he had contracted as a result of the use of opium during an attack of dysentery. Four years ago, he had gone to an institute and had been cured of these habits, but quickly lapsed into them again, excepting that he never renewed the use of tobacco.

I was unable to find out definitely the amount of morphin and whisky that he used daily. His own statement was to the effect that he had been taking about 7 grains of morphin daily. This statement was probably inaccurate, for judging from the amount it was necessary to give to keep him reasonably quiet, at the time I was called, he certainly could not have been taking less than from 10 to 20 grains in the twenty-four hours, and probably more for some months; and of whisky he used from one pint to one quart daily.

In October, 1894, when suffering from malaria, he had been given by a physician 120 grains of quinin in twenty-four hours in four doses. In a very short time he was totally blind in both eyes, but this condition lasted only about two weeks, after which there was a gradual return of vision, so that he resumed work on his books, and was able to continue at intervals by aid of an assistant (for his vision never became good), till February, 1895, since which time he had not been able to see anything, except to distinguish a bright light occasionally. There was no history of concurrent deafness.

During June and July he had been living with a woman who was an opium habitué and she had kept him constantly saturated with morphin, till his sister brought him to Los Angeles.

The patient, five feet, nine or ten inches tall, was extremely emaciated, weighing about 103 pounds; his normal weight had been from 145 to 150. He had the marked opium cachexia and puffiness of lower lids. There was almost complete loss of the cutaneous and deep reflexes, the knee jerk being entirely absent. The bowels were sluggish, and the urine very scanty, ten to twelve ounces in twenty-four hours. He was practically demented, his memory so defective that he could not sustain a conversation.

The pupils were so small that it was quite impossible, in his helpless condition, to make a satisfactory ophthalmoscopic examination, without producing mydriasis, which I did with a weak solution of sulphate of atropin, and found the fundi presenting very small deviations from the normal. Both nerves were pallid and the arteries and veins, though relatively normal, were both slightly reduced in size, no other changes could be detected.

The morphin was gradually diminished and codein substituted, the whisky slowly reduced, so that by November 1, he was taking no morphin or whisky.

At different times, trional in 15 grain doses, chloralamid 30 grains, chloral and bromids 20 and 30 grains, and hyoscyamin 1-30 grain were given to quiet him. Sulphate of strychnin was administered, in gradually increased doses, from 1-60 to $\frac{1}{3}$ grain three times daily, hypodermically, in the temples. The knee jerk and other reflexes returned. Occasionally he would describe quite accurately some object in the room, but these returns of vision were very transient. His intellect improved materially, as did also his physical condition. About November 1, he had two quite marked convulsions, and we decreased the strychnin. The patient died late in December, of bronchitis and edema of the lungs; a condition not unlike senile bronchitis.

Was this a case of toxic amblyopia? and if so, was it due to quinin, morphin or whisky?

Now is the time to increase the membership in the ASSOCIATION. Let every member send in one or more new names.

THE MEDICAL TREATMENT OF INEBRIETY.

Read before the New York State Medical Society at New York City, Oct. 15, 1896.

BY T. D. CROTHERS, M.D.
SUPERINTENDENT WALNUT LODGE, HARTFORD, CONN.

Inebriety is a more complex disease than insanity. Its progressive degeneration often dates back to ancestors, to defects of growth, retarded development and early physical and psychic injuries. Later, the poison of alcohol, by its anesthetic and paralyzing action, develops more complex states of degeneration, the form and direction of which is very largely dependent on conditions of living and surroundings.

The psychic symptoms show progressive disease of the higher brain centers, both masked and open, with degrees of palsy and lowered vitality. In insanity many definite pathologic conditions are traceable. In inebriety a wider, more complex range of causes appear, the line of march of which is often traceable in more general laws of dissolution. Its medical treatment must be based on some clear idea of what inebriety is, and the conditions present in the case to be treated. This requires a careful clinical study of the symptoms, tracing them back to causes, and all the varied conditions formative in the progress of the case. In such a study, heredity appears as the most frequent early predisposing cause. The question then is: What conditions of life have been most active in developing these inherited tendencies? How can these conditions be checked and prevented? What means and methods are possible in the rational treatment?

The second class of cases most commonly noted are those due to physical causes. These are the physical and mental strains and drains, also injuries both physical and psychic. The remedies here are distinct, and the means to build up and restore these defects call for therapeutic skill and judgment. A third class of inebriates seem to be due to especially psychic causes, of which mental contagion of individuals, of conditions and surroundings are most prominent.

Here another class of remedies and therapeutic measures are required. These classes are often combined, and the various causes are blended, requiring more accurate study to determine the leading factors in each case. These are conditions which provoke the early use of alcohol, and give form and direction to the progress of the case.

The second part of the clinical study of inebriety is the effect of alcohol. What injury has it caused? How far has it intensified all previous degenerations, and formed new pathologic conditions and sources of dissolution? Also what organs have apparently suffered most seriously from the drink impulse? and, most important of all, how far is the use of alcohol a symptom or an active cause? Having ascertained these facts, the medical treatment is the same as in other diseases, the removal of the exciting and predisposing causes, and building up the body.

The first question is the sudden or rapid removal of alcohol. If the patient is alarmed, and intensely in earnest to abstain, he will consent to have the spirits removed at once. If he is uncertain, and has delusions of the power of alcohol to sustain life, the withdrawal should depend upon circumstances. The removal of all spirits at the beginning of the treatment is always followed by the best results. The reaction which follows can usually be neutralized by nitrate of strychnia, one-twentieth of a grain every four hours, combined with some acid preparation. Soda bromid, in 50 or 100-grain doses every three or four hours will break up the insomnia, and cause sleep the first two nights.

The withdrawal of spirits should always be followed by a calomel or a saline purge, and a prolonged hot-air or hot-water bath, followed by vigorous massage. Hot milk, hot beef tea, and in some cases hot coffee, are very effectual. If the patient persists in a gradual reduction of the spirits, strychnia 1-20 of a grain should be given every two hours. The purge and hot bath should be given every day while the spirits are used. The form of spirits should be changed from the stronger liquors to wines and beers. Some of the medicated wines are useful at this time, or spirits served up in hot milk. There is no danger of delirium from the withdrawal of spirits, particularly where baths and purging are used freely. The two conditions to be treated at this time are poisoning and starvation. The system is saturated with ptomains from alcohol, and suffers from defective digestion. The nutrition is impaired, and organic growth retarded. Saline or calomel purges with baths meet the first condition, foods and tonics the second. Not unfrequently the withdrawal of spirits reveals degrees of brain irritation and exhaustion, that are practically manias and delirium, or dementia and melancholia. The essential treatment is to regulate the nutrition and elimination, then arsenic, strychnin, phosphates and iron will comprise the chief remedies that are found most useful.

Many of the chronic cases of inebriety reveal dementia when spirits are removed; others show well-marked paresis, or tuberculosis. Symptoms which were attributed to the action of alcohol are found to be due to previous degenerations. In one case the demented talk and conduct while using spirits burst into marked dementia when the drug was withdrawn. In another case, the wild, extravagant conduct of the inebriate appears in paresis when free from spirits.

The removal of alcohol is often followed by tuberculosis, not suspected before, which apparently starts from some trivial cause and goes on rapidly to a fatal termination.

Rheumatism and neuritis are forms of disease which frequently appear after the withdrawal of spirits. Diseases of digestion are common, also diseases of the kidneys. The latter is usually masked and bursts into great activity when alcohol is removed. These and many other organic diseases suddenly come into view, and whether they have existed, concealed by the anesthetic action of alcohol, or have started up from the favoring conditions of degeneration caused by spirits, are not known. The therapeutic requirements must reach out to meet all these unsuspected disease states which may appear any time.

The removal of spirits in all cases reveals conditions of both physical and psychic degeneration that call for a great variety of therapeutic measures.

The next question is to ascertain the special exciting causes and remove or build up against them. In the periodic cases the early favoring causes of the drink storm are often reflex irritations from disordered nutrition, exhaustion and excessive drains or strains. Later a certain tendency is formed for explosions of

deranged nerve energy in alcoholic impulses for relief. This periodicity is often due to causes which can be studied and prevented by remedial measures. In certain cases nutrient and sexual excesses are followed by a drink storm. In another, exposure to malarious influences, where the disease has existed for a long time before, brings on the craze for drink. In other cases, constipation, overwork, neglect of hygienic care of the body, irregularities of food and sleep, emotional excitements or depressions are followed by an alcoholic craze. A vast range of psychic causes have been noted. Thus, a residence on the seashore or in high altitudes, on mountains, provokes his thirst for spirits and removal to higher or lower planes is followed by a subsidence of it. Many persons never use spirits except in large cities, or at special exciting gatherings, or on holidays and festive occasions. Here evidently some defect of the brain exists, either organic or functional, which should be reached therapeutically. Literally, many of these cases have been cured by change of surroundings as well as medicines.

While the ostensible object of medication is to stop the drink craze, this is as far from being curative as the suppression of pain by a dose of opium. Conditions which cause the disordered nerve force to concentrate in cravings for the anesthesia of spirits, are to be neutralized and prevented before a cure can be expected.

The use of narcotics and drugs to check the desire for spirits at the beginning is temporary and always uncertain. Opium, chloral and cocain given freely at this time often simply changes the drink craze for these drugs, which are used in the place of spirits ever after.

The return of the drink impulse at regular or irregular intervals is in most cases preceded by premonitory symptoms, which enable the physician to use preventive remedies. In certain cases calomel and saline cathartics, with prolonged baths, rest, or exercise, according to the requirements of the case, have been found curative.

Various cinchona tonics, free from spirits, and iron preparations are often useful. Large doses of strychnin seem more valuable after the full development of the morbid impulse, given when spirits are discontinued. Some of the various coca compounds on the market have a strong influence in breaking up the drink storm.

In a certain number of cases patients are unconscious of the approach of the drink storm and are difficult to treat. But when they realize its coming and seek assistance the task is easier. The general principle of treatment is sharp elimination through all the excretory organs and the use of mineral tonics, changes of diet and living; particularly a study of the exciting and predisposing causes, and their removal. When the drink paroxysm has passed away, then radical constitutional remedies are to be used. The history of syphilis calls for mercury, arsenic and potassium. Defective nutrition requires a study of the diet best suited to build up the tissues.

Entailments from other diseases, as malaria, rheumatism and various neurotic affections, require appropriate remedies.

Tinctures of any form are dangerous. The susceptibility to alcohol is so great that the smallest quantity is felt, although it may not be recognized. Where spirits are taken continuously the system is always depressed; all functional activity lowered and literal palsy and starvation are present.

The removal of alcohol is only a small part of the treatment. The demand for alcohol is a symptom of this progressive degeneration. Given remedies to produce disgust for the taste of spirits, or to break up the cravings for it, are not curative. Apomorphia, mixtures of atropia, hydrastin, and a great variety of allied remedies, are all dangerous; while apparently breaking up a symptom of the disease present they often literally increase the degeneration by their irritant narcotic properties and further depressing action on the organism. The indiscriminate use of these, and allied drugs, in the various specifics for inebriety, is the most dangerous empiricism. It is the same as opium or other narcotics for pain in all cases, irrespective of all conditions and calling the subsidence of the pain a cure. Thus in the following cases a periodic after a gold-cure treatment developed into acute dementia, which ended fatally. In others epilepsy, acute mania, pneumonia, rheumatism, nephritis, followed from the chemic suppression of the drink impulse. In all probability the narcotics used were active, contributing causes to the particular organic disease which followed.

The masked character of inebriety makes it dangerous to use narcotics beyond a certain narrow limit. Cases which have been subjected to active drug treatment to suppress the desire for spirits are feebler and more debilitated than others. Those who have taken the so-called specifics are marked examples and whether they use spirits again or not are always enfeebled and pronounced neurotics. In all these cases there is so wide a range of causes and conditions that specific routine treatment is impossible.

Strychnin has recently come into some prominence and is a useful, valuable drug. In some cases where the spirits are withdrawn its action is pronounced as both a tonic and stimulant. Given in 1-30 grain doses four times a day, for a few days at a time, then discontinued, or given in larger doses for a shorter time, the results are usually good. In some cases certain susceptibilities to the action of strychnia are noticeable and where the drug is taken to prevent the drink attack it sometimes rouses it, seemingly precipitating the condition which it is supposed to prevent. This is often anticipated in the muscular tremors and nerve twitchings that evidently come from strychnia when used even in small doses.

Strychnia should never be given alone, except immediately after the withdrawal of spirits. At other times, combined with cinchona or other vegetable tonics, is an excellent tonic. Care should be used to watch its effects on the motor nerves, and be sure that the patient is not unusually sensitive to it. Belladonna, atropia, cannabis indica, hyoscyamus and drugs of this class have a limited value and should be used with great caution in states of irritation following the withdrawal of spirits. They are best given in combination with other drugs for a brief time and in particular cases. The bromids are valuable in the same way and in the same conditions, only in much larger doses than mentioned in the text-books. From 50 to 100 grains to a dose are requisite, always accompanied with baths and never continued more than two or three days. Coal-tar preparations are of uncertain value as narcotics, but may be used in certain cases with good results. The various mineral and vegetable acids are almost indispensable in selected cases and often can be given a long time as tonics.

In the treatment of cases, after the paroxysm is

over, frequent changes of the form of the tonics are most valuable. Iron, phosphorus, arsenic, potassa and bitter vegetable tonics should be alternated, with free intervals, for periods of months. The various derangements of the system should be watched and treated with appropriate remedies and every case should be constantly under medical care. The facts of the case having been studied, the question of where the medical treatment can be applied to the best advantage must be determined from the case and its surroundings.

If at home the physician must have full control and his directions carried out implicitly. When the drink paroxysm appears the course of treatment must be prompt and exact. In one case the patient goes to bed and is secluded from all sources of excitement; in another he is sent away to the country and among strangers; in a third case a few days' residence in a hospital or asylum under the care of a physician is sufficient. Hospital treatment, with its exact care and physical and psychic remedies continued for a long time give the strongest promise of permanent restoration. Wisely adapted medical treatment, based on a careful study of each case, makes it possible for the family physician to treat these cases, in the early stages, with success.

No single remedy is capable of meeting a wider range of conditions than the Turkish or hot-air baths, with free massage. Next to this is hot and cold showers, and hot packs with free rubbing. Bitter tonics and salines with regulated diet are next of importance. Elimination through the bowels, kidneys and skin freely are always essential. Beyond this the good judgment of physicians should determine when to give narcotics and when to abandon them, always remembering their danger and very uncertain temporary action. Also that the cessation of the drink craze is only temporary. If this is accomplished by drug and chemic restraint the permanency is very doubtful.

The subsidence of the drink symptom by the removal of the exciting causes and building up the system to greater vigor and health is the only rational treatment. In this the highest medical judgment possible and the greatest therapeutic skill are essential for success. The medical judgment, which will determine the exact condition in each case, and the possible range of remedies required; not any one drug or combination of drugs; not so-called moral remedies, or appeals to the will power, but a clear, broad, scientific application of every rational means and measures are demanded. A large number of these unfortunate cases are distinctly curable in the early stages, and later when chronic conditions come on the possibility of cure continues to a far greater degree than is commonly supposed.

It is the common observation of everyone that a certain number of cases recover from the apparent application of the crudest empiric and psychic agencies used in the most unskillful way. This fact furnishes the strongest possible reasons for believing that when inebriety shall be studied and treated as a disease more generally by the profession a degree of curability will be attained far beyond any present expectation. The present empiric stage of treatment should rouse a greater interest and bring the medical treatment of inebriety into every-day practice. Then the family physician, and not the clergyman and quack, should be called in to advise.

A new realm of medical practice is at our doors, only awaiting medical study above all theory, and exclusively from the scientific side.

ELECTRIC TRAUMATA, THEIR PECULIARITIES AND THEIR TREATMENT.

Read at the thirty-ninth annual session of the Medical Association of Missouri, May 21, 1896.

BY NORVELLE WALLACE SHARPE, M.D.

ST. LOUIS, MO.

Among the forces of nature that are rapidly being utilized by man in the arts, sciences and the daily needs of life, and occupying a prominent rank is electricity. Its applicability is becoming multifarious, its capabilities are unknown. We have but to glance over the columns of the press and note the casualties to realize the numerous accidents attributable to it alone. It is needless to observe that the recorded cases represent but a meager proportion of the actual number of its victims. Of the varieties used to-day, two currents stand out prominently over the others in their applicability to the needs of modern life—the alternating and direct. The alternating ranging from 1600 to 2000 voltage, ordinarily, produces our incandescent lighting system. The direct current ranging from 500 to 3000 voltage, supplies the arc lighting system, and in the lower voltage is the motive power in street railways, factories, etc. It is obvious that with the increased usage of these agents, accidents will occur in direct proportion to the complexity of factors, and insufficiency of safeguards, unless a superior attention to safeguarding be practiced. The lethal force of electricity is almost entirely dependent upon voltage or electro-motive force, being actually the result of the current in amperes, which is caused to flow through the body against its resistance, by the electro-motive force. In any electric circuit the current in amperes flowing, is equal to the electro-motive force in volts divided by resistance in ohms. This is known as Ohm's law; and for our purpose is equivalent to stating that with a given resistance the current in amperes is proportional to electro-motive force in volts, and further, the current in amperes is the actual lethal force. There are cases on record where a pressure of 500 volts has been fatal, but far the greater number of casualties have been produced by pressure exceeding 1000 volts. From 1500 to 2500 volts have been employed in electrocution, the skin resistance brought to the minimum by contact sponges of large surface, wet with saline solution. The usage of these technicalities may be clarified by the following suggestion: Imagine a pipe conveying water driven by force, the conventional hose will suffice. Thus we find that: 1, the volt, unit of electro-motive force equals pressure or head of water; 2, the ampere, unit of quantity equals quantity of water passing through the pipe, expressable in gallons; 3, the ohm, unit of resistance (produced by one ampere of current, under pressure of one volt in one second of time) equals the degree of frictional resistance of pipe. Permitting C to equal current, —quantity, —ampere; E to equal electro-motive force,—pressure,—volt; R to equal resistance,—ohm; we deduce $C = E \div R$. In medical application of electricity where the resistance within the cells is large, R should be subdivided into R′, internal, and R″, external resistance; the resultant equation reading $C = E \div (R' + R'')$. But in electric lighting and power systems where an almost constant

pressure is maintained on the supply mains, the resistance of the mains is so inconsiderable, as to be negligible. Demonstration of the practicability of these formulæ is easy. The pressure required for incandescent lamps (for example) is about 110 volts (being reduced on alternating current from the high voltage of mains by means of transformers), the resistance is 220 ohms. Current to be found: C = 110÷220 or ½ ampere for 16 C. P. lamp. The 32 C. P. lamp requires one ampere, pressure 110 volts; resistance required: R = 110 ÷ 1 = 110 ohms.

Of the various human tissues the skin presents the highest resistance to electric penetration. (Different thicknesses produce resistance of varying degree). When it is removed, destruction is markedly intensified. Skin resistance increases by dryness; moistened, especially by saline solution, it is notably diminished. Experience tends to show that a current of one or two amperes is fatal to the majority of individuals. The fact that comparatively low voltages in some cases have proven fatal, and victims of shock from relatively high voltages have recovered, does not necessarily show that some systems can withstand more current than others, but rather that the skin resistance was greater, or the area of contact smaller in the more fortunate cases (according to Ohm's law). Any current sent through the body being dependent upon the resistance offered (the skin being the chief factor), it follows that the larger the area of contact, the less resistance, and a proportionally greater amount of current is received. It is known that a 2 or 3 per cent. saline solution offers a resistance equal to about one-twentieth of that of pure water, and that sea water offers about one-fortieth. The resistance offered to an alternating current by a cubic foot of pure water at 60 degrees F. is 80 ohms 60 degrees; a cubic foot of water, plus 15-100 pound of rock salt is 7 ohms. Elevate these fluids to 212 degrees F., pure water resists to the extent of 24 ohms, the saline solution 4.2 ohms. From these data it is clear that the salinity of the sweat, temperature and humidity of the atmosphere and season of the year are all important factors in the determination of the resultant shock to an individual. Of the two chief currents, direct and alternating, the former has the greater electrolytic intensity, the latter produces no permanent chemic change. Death from either current is without doubt due to sudden and profound shocking of the sympathetic system.

The injuries resultant from electricity range from relatively trivial burns to loss of life. Of all such injuries, an overwhelming percentage consists of burns. They usually occur upon the hand or forearm and differ radically from ordinary burns and scalds, in, 1, appearance; 2, accompanying pain; 3, concomitant shock; 4, prognosis; 5, subsequent manifestations; 6, reaction to treatment, and frequently 7, result. I may mention *en passant* that during the four years these researches have occupied, I have failed in the search of literature upon this subject.[1]

Appearance: The majority of electric burns, seen early, present a dry, crisped aspect, excavated and bloodless, with surrounding zone characterized by pallor. This condition changes within thirty-six hours, serous oozing obtains, the tissues soften, and hyperemia replaces the pallor.

Pain is as a rule very moderate, in some cases practically absent. Twenty-four to forty-eight hours after contact it is usually present.

Shock: Electric burns differ from other burns in that the systemic shock is from the contact, the shock from the burn *per se* being *nil.*

Prognosis, in regard to time: Electric burns average from one and one-half to three times as long in recovery as other burns; in some cases, dependent upon locality, such as proximity to bones and joints, the ratio is as 5 to 1 or more; prognosis, of results, is as uncertain as time prognosis; severe cases may progress relatively rapidly; mild cases are often persistently rebellious to recovery; usually both mild and severe cases are tedious and prolonged.

Subsequent manifestations: The rule of the electric burn, from which there are rare exceptions, is that it changes within thirty-six hours from contact to a serum saturated area, with disintegrating walls and floor, progressing to profuse purulent secretion with continued tissue degeneration. This degeneration will frequently involve nerve, muscle, tendon, joint capsule, ligaments, articular surfaces, periosteum and bone itself. Exuberant granulations springing up, the entire plain bathed in pus, complete a picture alike distressing to patient and surgeon.

Reaction to treatment is very unsatisfactory, it being apparently impossible to check the disorganizing process, especially in severe cases, with most scrupulous antisepsis or asepsis. After a varying period of from fifteen to fifty or sixty days, and often much longer, firm granulation will slowly proceed and the

Result will be as good as is ordinarily secured in other burns. In some cases, however, owing to the disintegrating process involving bones and joints, producing necrotic masses, amputation is necessary. Too much stress can not be laid upon the above clinical picture, and errors in prognosis are readily made by those who have not been brought in contact with such injuries, in regard to time and result. The sloughing almost invariably present is noteworthy. Frequently a burn which in its incipient measurements will not occupy more than a square inch of surface, will produce a subsequent area of four or five square inches, or more, due to degenerative changes. The intensity and persistence of this process, unabated by usual surgical methods, can only be accounted for, by a local trophic death, produced by electrolytic activity in destruction. This wet gangrene continues as long as the local trophic inanition lasts; and healthful rejection of sloughs, and replacement by firm granulation material, can not and does not obtain, until local trophic equilibrium is again established.

The treatment of profound shock from an electric current should be instituted upon lines analagous to those pursued in shock from other agents. The patient will be found pulseless or nearly so, respiration of the most feeble character or absent, warm skin which rapidly cools, with pallor, immobile pupils and absolute muscular relaxation. Laborde's method of tongue traction in the horizontal position or with the head upon a lower plane than the body, is advised. Frictions, heat to body and extremities, hypodermic injections of brandy, digitalis, etc., are valuable. In cases where respiration is not absolutely suspended, inhalations of nitrite of amyl, until face flushes, followed by a massive hypodermic of strychnin, will bring the vital forces together; this effect should be followed by nitroglycerin. Electric applications are *not* advised. Dissatisfied by the poor results of classic

[1] One day before this paper was read I was made cognizant of the fact that Moyer of Chicago had about a year ago produced an article on lines somewhat analagous to those investigated here. I have not seen the article, nor any other on this subject.

REPORT OF CASES ILLUSTRATIVE OF PECULIARITIES OF ELECTRIC TRAUMATA.

Name.	Injury.	Cause.	Current.	Duration of Injury.	Remarks.	Result.
G. L. . .	Burns last phalanx 3d finger left, dorsum both hands.	Electric wire contact.	Alternating.	Seventeen days.	Suppuration.	Good.
W. H. J.	Burns 3d and 4th fingers, right, 4th finger left, and right wrist.	" "	"	Between sixty and seventy days.	Suppuration and sloughing involved, 1st inter-phalangeal joint and 1st and 2d phalanges, necrosis. Degeneration extended rapidly and deeply on both palmar and dorsal surfaces of finger, and upward upon the hand. Amputation at 4th metacarpo-phalangeal articulation.	Marked cicatrization, otherwise good.
N. F. . .	Shock.	Hand and foot contact, dynamo.	Direct.	Instantaneous.	Points of contact barely visible.	Death.
P. O'K. .	Burns right hand and fingers and left forearm.	Electric wire contact.	Alternating.	Sixty-five days.	Suppuration and sloughing necrosis of phalanges. Succeeded, however, in saving phalanges.	Marked cicatrization, otherwise good.
C. A. . .	Burns right hand and fingers.	" "	"	About ten days.	Suppuration.	Good.
R. B. . .	Burns left hand, right wrist.	" "	"	Forty-seven days.	Suppuration and sloughing.	Good.
T. J. M.	Burns left hand,	" "	Direct.	Eleven days.	Sustained while adjusting arc lamp on a stormy night.	Good.
J. J. R. .	Burns thumb 1st and 2d fingers, left.	" "	"	Twenty-five days.	Suppuration and sloughing.	Good.
J. McE. .	Burns right hand and face.	Electric "flash light."	Alternating.	Three or four days.	Ran a satisfactory course.	Good.

aseptic treatment of these cases of burns, the author, in the search for improved methods, utilized, among other agents, the following: Bichlorid solutions, carbolic solutions, pyrozone solutions, chlorid of zinc solutions, in varying strengths; peroxid of hydrogen, sterilized water, hot and cold; iodoform, dry, in emulsion and in glycerin; salicylic and boracic acids, bicarbonate of sodium, loretin, aristol, tartrate of iron and potassium in solution. And for the digestion of the sloughs, pepsin, trypsin and pancreatic extract in appropriate media. Both moist and dry dressings were employed in various cases. These agents yielded results practically analagous to the conventional aseptic and antiseptic measures of wound treatment; in some cases, the results were not as satisfactory. They should be employed as adjuvants, fitted to the demands of the individual case, to aseptic or antiseptic means, and not as substitutes.

CONCLUSIONS.

1. The skin is the chief factor of resistance in an individual sustaining an electric shock.

2. That moisture of the skin, and especially, marked salinity of sweat, favors access of current.

3. Humidity and temperature of atmosphere, and season of year are important factors in determining individual resistance.

4. Electric traumata differ from ordinary burns or scalds in duration.

5. Electric traumata differ from ordinary burns and scalds in results (noticeable in severe cases).

6. Prognosis in all cases should be guarded.

7. Rigid asepsis should be followed in the manipulation of all cases.

8. Sloughs are best removed by solution of pepsin, thus: Scale pepsin 2 grms.; hydrochloric acid U.S.P. 1 cubic centimeter, distilled water 120 cubic centimeters, washed off in two hours with peroxid of hydrogen, pyrozone or hydrozone. Application to be repeated as may be necessary.

9. Deep disintegration demands especial watchfulness for the detection of bone or joint invasion.

10. Necrosis of bone should be combatted by injecting a 3 per cent. solution of hydrocholic acid in distilled water, repeated not more frequently than every two hours. Every second day the acid pepsin solution (see above) should be used until the necrotic masses are cleared away, when gauze packing should follow. In cases complicated by tuberculosis a 10 per cent. mixture of iodoform in glycerin or a 7 to 10 per cent. solution of iodoform in ether, should be subsequently employed.

11. Persistent bone or joint invasion with necrosis, requires amputation, or in some cases resection.

12. Degenerative division of important nerves should be subsequently repaired by Levering's method.

13. Degenerative division of important arteries and veins should be repaired by Murphy's method, when possible.

14. Granulating areas, after sterilization, should when feasible be covered by large skin flaps.

15. When healing process has started, peripheral skin growth is hastened by the use of a layer of sterile gauze saturated with an iodoform-glycerin mixture, and covered by rubber tissue.

QUINSY; THE DIFFERENTIAL DIAGNOSIS AND TREATMENT.

BY J. HOMER COULTER, A.M., M.D., PH.D.
CHICAGO, ILL.

The fact that many presumable authorities use indiscriminately the terms tonsilitis and quinsy, has led me to attempt, if possible, to emphasize the differentiation so clearly brought out by Bosworth in his late work. He was, I believe, the first to make prominent the difference between the two conditions. Admitting that the symptoms are often analagous, even more so than are usually seen in other contiguous structures, yet because the pathology is comparatively open to inspection, the diagnosis should in the ordinary case be made with approximate certainty.

Let us briefly observe the comparative anatomy of the parts; it may add somewhat to our etiologic theories. I do not find by dissection nor by any anatomic authority, that any of the muscular fibers from the palatoglossus or palatopharyngei muscles leave the striations of those muscles and branch off into the body of the tonsil; nor do they anastomose with each other until they have passed below the triangular space occupied by the tonsil. This olive-shaped body, which we term the tonsil, is thus ensconsed within its position much as the eye rocks in its bony cradle, but with a much less intimate anatomic relation to surrounding structures.

The lymphatics of the tonsil are most important

etiologically. If they anastomose to any great extent with the lymphatics of the lateral and posterior pharynx, then we might anticipate an infection in the tonsil would often be conveyed to the peritonsillar tissues. Or if the action of the tonsillar lymphatics was absorptive rather than expulsive the bacteria would more likely be lodged deep in the plexus within, near the carotid artery, and we would anticipate a phlegmonous condition as a much more frequent evidence of the correctness of our etiology. The comparative absence of these evidences however, must indicate that, either the lymphatics in the so-called "lymphoid ring" are not very ready bearers of bacilli, or else the intimate connection, presumed by some authorities, between the lymphoid tissues at the base of the tongue, between the pillars and in the vault of the pharynx, is an imaginary one.

Some have claimed that the normal secretion of the tonsil was one of nature's antiseptics, a leucocyte guard destroying every microbian intruder; but if the leucocytes be absent from any cause, or the lacunæ be in a diseased condition, it is then but an open viaduct into the system, provided this intimate relationship between the lymphatics and the deeper tissues really existed.

In those cases in which the pillars overlap the tonsil there may be pseudo-continuity of tissue formed, but such a condition, I maintain, is distinctly pathologic. If a normal anatomic relation exists between the tonsil and pillar, the former will not appear as an etiologic factor in the production of peritonsillar abscess quinsy. If pyogenic germs be pent in by an overlying pillar and thus forced into the surrounding areolar tissue, we may expect quinsy as a natural result. Many recurrent attacks of quinsy are doubtless in some measure due to this cause.

That there does occur non-idiopathic cases of quinsy can not be doubted; but the *post hoc ergo propter hoc* theory of all cases following measles, scarlet fever, diphtheria or rheumatism is open to discussion. Indeed such an etiology occasionally receives a severe "shaking up" by the deductions of clinical experience. In most cases the origin is in the peritonsillar areolar tissue. Oftentimes on account of the intensity of the inflammation and edema the tonsil is protruded, but seldom indeed, if ever, is it involved in the inflammatory process anterior, posterior, or, in severe cases, surrounding it.

If there existed a more intimate natural continuity of tissue between the tonsils and the surrounding areolar tissue, we might expect from these bacteria traps a very frequent infection and consequent quinsy. Hence it may be argued that the tonsils, even though pathologic, may be in a measure a preventive rather than a cause of quinsy. Bosworth says: "An acute tonsillitis does not, and can not, develop a quinsy without some particular predisposing cause or dyscrasia."

Mechanical, chemic or traumatic influence may each be active in certain cases. Certainly, sudden changes from heat to cold, with draughts about the head, produce a fertile field for this disease. A strumous diathesis, that popular scape-goat of the "case reporter," and bane of the conscientious etiologist, should not be forgotten on so appropriate an occasion. Bosworth and others are inclined to think a very large percentage of these cases are due to an uric acid diathesis. If so, why does it not occur more frequently in rheumatics? My experience does not confirm such statistics. In my cases, rheumatism has not occurred more frequently than has a neurotic temperament, which condition I should hesitate to offer as an etiologic factor of any considerable importance.

With the anatomic relations of the tonsils in mind, and the most probable and only tenable theory of quinsy being that of a specific bacteria, the exact nature of which remains to be discovered, we can posit as our differential definition of quinsy: An acute inflammatory action in the peritonsillar areolar tissue, usually resulting in a suppurative process.

The symptoms in general are so well known that I will not unnecessarily lengthen this paper with a detail of them; only to such an extent as may be necessary to elucidate the differential characteristics of those pathologies most likely to be mistaken for quinsy. Those occasionally encountered are, follicular tonsillitis, the early stages of the exanthemata, acute pharyngitis, fibroid tumor, aneurysm, syphilis and that severer form of acute infectious phlegmon or retropharyngeal abscess, which is characterized particularly by its always serious, and most frequently, fatal prognosis.

In all tonsil inflammations the tonsillar gland is more or less hypertrophied, and shows evidence of recent or present inflammatory action. It is usually less painful than quinsy. Deglutition is more easily accomplished, though dysphagia is common in both. The peritonsillar tissues are not swollen, except as they may be pulled toward the median line by adhesions to the tonsil. In tonsillitis there is less tenderness, though this symptom may depend somewhat on the temperament of the patient. If the tonsil has been thoroughly extirpated, tonsillitis is necessarily excluded. Ear complications can scarcely be caused by tonsillitis. Respiration is not as a rule embarrassed by quinsy. The tonsils are not always enlarged in quinsy; while a peculiar fetid breath and constipation are almost invariably present. Another, to me, almost pathognomonic symptom of quinsy is the inability to expectorate.

In the early stages of the exanthemata, and the first thirty-six hours of quinsy, there is certainly often much difficulty in making a positive diagnosis. In diphtheria the temperature is subnormal or slightly increased. The possible prevalence of contagion would be an important factor. In these exanthemata the throat is rather sore than painful, there is also more hyperemia. A membrane would indicate, though not insure diphtheria.

It scarcely seems possible that one could mistake a fibroid or other benign tumor for quinsy, yet such mistakes have been made. Its density, duration and freedom from pain and temperature would positively differentiate it in any case. Syphilis, in the tertiary form, might confuse one unaccustomed to seeing either condition frequently. But the history of the case should be sufficient. Ulceration, moreover, does does not occur in quinsy.

Aneurysm, in general appearance, would most closely resemble quinsy. But its infrequency and history, as well as absence of pain and other symptoms, would certainly prevent error.

The acute infectious pharyngeal phlegmon, fortunately, does not occur very frequently. It nevertheless is an important point in this consideration. I surmise that when at some time, a plodding investigator succeeds in making a specific bacteria culture from both

conditions, they will be found to be identical. The former differing from quinsy, mainly in the intensity of its toxemic virulence. Infectious phlegmon also attacks the deeper tissues and posterior pharyngeal wall, extending downward, the respiration becoming embarrassed as the abscess increases in size. Spondylitis is not infrequent in infectious phlegmon; but whether as a cause or as a result, authorities disagree. Certain it is, however, quinsy is not associated with spondylitis either as cause or effect. In the infectious phlegmon, the face is more congested and livid; the neck stiff, the muscles tense and prominent, and the usual quinsy symptoms greatly intensified. Quinsy may occur in children, rarely so the other disease. In case it is a simple pharyngeal abscess, it may occur in childhood. Retropharyngeal abscess is not so acute, painful or serious, and is amenable to the treatment of abscess in other parts.

Treatment.—In any suggestions as to abortive measures, I recognize the fact that we do not usually see a quinsy patient until the disease has been progressing for twenty-four or more hours. To abort it at this stage is out of the question, in almost any case. We can not claim for any medicinal remedy or combination a positive abortive effect in a case of quinsy.

In every case it is advisable to give a good mercurial cathartic, followed by a saline. Unless we are reasonably positive of the presence of pus, when the case is first presented, I do not believe the use of the knife is advisable at that time. We must not provoke the inflammatory action by a too hasty attempt to relieve our patient by incision. We have all too often seen a veritable stabbing process performed in and about the tonsil, in the fruitless endeavor to locate the abscess. It appears to me this might usually be avoided by previously assuring ourselves with a careful differential diagnosis.

For many years the stereotyped line of prescribing had been quinin, opium, guaiacum, sodium salicylate, aconite and belladonna, either singly or in compound, as the opinion of the prescriber was guided by experience. I have no word of criticism for these. They were good, and doubtless afforded a vast relief in the aggregate. But as all things must change, and we tire, even of friends at times, so when improvements are made we must accept them as such. More recently salol has come into quite general favor.

From 1892, when I listened to Dr. Newcomb in his exhaustive paper on the treatment of tonsillitis medicinally, at the meeting of the AMERICAN MEDICAL ASSOCIATION in Detroit, until about one year and a half ago, I have felt that salol was the remedy *par excellence* for these cases. At that time three cases, all clerks in the same department of one of our largest establishments, presented themselves at the same time. Two of them roomed together, the other lived with his parents. Such a coincidence at least suggested the possibility of contagion. A broken window on a cold, damp day was the presumable etiologic explanation. They were all suffering intense pain. Two of them had typical attacks of quinsy, the other tonsillitis. I used my usual applications, advised hot gargles and poultices, prescribing salol with rather confident promises of speedy relief. I had had two positive, and two doubtful, failures with salol in the three years' experience previously, so that to find my patients growing worse for thirty-six hours did not entirely surprise me. Free incision was meanwhile made without obtaining pus, in either case of quinsy. The tonsillitis was further advanced, and was much relieved by the incision. In the other two I prescribed lactophenin, 10 grains every three hours; after the second dose Mr. B. was almost entirely relieved of pain; the temperature the following morning was 99.2. The other symptoms were likewise very much ameliorated. In the case of Mr. R., the third dose relieved him quite as completely. At this visit I was able to thoroughly evacuate the pus and cleanse the cavity, affording the usual relief in such cases.

Since the above experience I have used the remedy in twelve cases of quinsy, and in all but one instance the results have been most gratifying to myself, and I am sure not less so to the patient. These patients have been first seen in all stages of the disease, from the first hour of the attack to the fourth day; and in one case, in consultation, on the sixth day.

The average time of relief has been about four hours. In all but three the relief was decided before the knife was used. In each of these three there were evidences of pus present, and the bistoury was used at once; so that the part played by the remedy is indeterminate.

I have in these cases given the lactophenin to the exclusion of every other remedy internally, excepting the cathartic already referred to; not omitting, however, the usual hot gargles and external applications.

My reasons for preferring it to salol are: Its action is decidedly more prompt; it has thus far given me no undesirable after effects; it not only relieves the pain, but reduces the fever with an equal certainty. In cases of evident rheumatic diathesis I should certainly employ, in addition thereto, my customary remedies.

103 State Street.

THE STATISTIC EVIDENCES OF THE VALUE OF VACCINATION TO THE HUMAN RACE, PAST, PRESENT AND FUTURE.

Read before the American Medical Association at the Jenner Centennial Celebration, held at Atlanta, Ga., May, 1896.

BY EUGENE FOSTER, M.D.

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE AND STATE MEDICINE AND DEAN OF THE FACULTY OF THE MEDICAL DEPARTMENT UNIVERSITY OF GEORGIA, AUGUSTA, GA.

(*Concluded from page 958.*)

HUTCHINSON'S CASES.[47]

First Series.—Patients first seen seven weeks after vaccination. Vaccinifer four months old, healthy looking, vesicle eighth day lymph. To the vaccinator and the surgeon, she at the time the lymph was taken, bore the aspect of excellent health. All of the vesicles from which lymph was taken bled. Two months afterward Mr. Hutchinson saw vaccinifer. "My attention was, however, at once attracted to a slight peculiarity in the tint of her skin and to the look of her face; and although it was strongly denied that she had ever 'snuffled,' yet when she was made to cry I noticed a nasal twang which was very suspicious. On having her stripped, not a single spot of rash could be seen on her skin, but on inspecting the buttocks five small circular condylomata were discovered close to the anus, about which there could not be the slightest doubt. Mother detected condylomata about a week previously, but declared infant had never been ill. I could not find in the mother herself any indications of syphilitic taint, nor obtain any history of suspicious symptoms. Did not have opportunity to inspect father. A fortnight later, sought child at its home. The child then looked more ill than when first seen; the condylomata were in the same condition. It had no rash. Its head was enlarging, and its mother complained that it was wasting away. About the existence of constitutional syphilis in the infant at the date of my examination (two months after vaccination) there could not be any doubt, and scarcely any as to the taint

[47] Quoted from Illustrations of Clinical Surgery. By Jonathan Hutchinson, F. R. C. S., 1877.

having been an inherited one. There can, I think, be little doubt that in this instance it was the blood, and not the vaccin lymph, which was the source of the contamination.

Second Series.—Patients seen about seven weeks after vaccination. History of vaccinifer: Child stout, well-grown, seven months old; selected as vaccinifer from amongst several others, as being most healthy present. Excepting a little transitory "tooth-rash," probably lichen, on the face he had no eruption. His head was decidedly large and the fontanelles widely open. Mother said this had been noticed for a few weeks. Mother said "he had snuffled a great deal." No trace of rash on child's skin, but at anus there was a single small condylomatous patch just healing. Saw infant several times during six weeks after this first examination, but no symptoms of a more definite character showed themselves. The condyloma soon healed and with the exception of a slight tendency to hydrocephalus, the infant, at time I last saw it, might have been regarded as a specimen of excellent health. Several persons vaccinated from it mentioned it was very healthy looking at time lymph was taken. No trustworthy evidence could be obtained as to whether blood was or was not transferred in the operation of vaccination. No syphilitic symptoms found in either parent. Father denied ever having had venereal disease, and submitted to personal examination at my office, and we failed to detect anything of a nature to cast suspicion on his denial.

Third Series.—Patient seen three months after vaccination. History of vaccinifer: Vaccinator says vaccinifer was a model of vigor and health. He presented child to me. I found a very large and very fat baby, eight months old. It had no rash, nor any trace of condyloma, and the only point about it suggestive of syphilis was the state of the bridge of the nose, which was decidedly broad and sunken. Mother appeared in good health; says the first two children died in infancy. This is only child living.

Fourth Series.—(One case.) Patient first seen fifteen months after vaccination. History of vaccinifer: Patient says vaccinifer puny at time of vaccination, and the mother ill. Does not know if vaccinifer's arm bled or not. Vaccinator denied that child looked puny at time of vaccination. Patient was probably last but one out of a considerable batch vaccinated from child. Mother of vaccinifer had borne three children previously. The eldest is a boy 10 years old; has no symptoms of syphilis. Second child stillborn. Third child a girl 4 years of age, who had no special symptoms in infancy excepting that for several months during teething she had very troublesome ulcers at the anus (condylomata); also had tendency to water on the head. Vaccinifer (fourth child) was four months old at date of vaccination, and appeared, according to the mother's statements, to be perfectly well. Subsequently, however, when dentition commenced he, like his elder sister, had very troublesome sores about the anus and a tendency to water on the head. For the anus he was three months under treatment at a dispensary. At twenty-three months of age patient is living, full-grown, and shows no peculiarities excepting a large forehead. Surgeon who treated child for trouble of anus says vaccinifer had syphilitic condylomata, snuffles, a slight skin-rash, and was very cachectic when he treated him. He did not ask the parents any direct questions because he was perfectly certain as to the nature of the ailment.

Fifth Series (two cases).—Patients first seen seven months after vaccination. Surgeon which did the vaccination could give no important facts. (History of vaccinifer entirely unknown to Mr. Hutchinson.)

Sixth Series.—No history of vaccinifer could be given, as lady had been vaccinated in India.

In contrast to these cases of alleged transmission of syphilis by vaccination, the following, a few of quite a number of cases, are cited, in which physicians of the highest professional standing took as vaccinifers persons known to be syphilitic at the time, and from them vaccinated a number of persons known not to be syphilitic, and failed to develop the slightest manifestation of syphilis in any one of the persons so vaccinated:

Name of Experimenter.	Number Vaccinated.	Number Infected with Syphilis.	Number not Infected with Syphilis.
Bidard	6		6
Mountain	30		30
Schreirer	2		2
Jonkoffsky	57		57
Delzenne	9		9
Bourguel	55		55
Guerin	55		55
Total	214		214

To these must be added the numerous experiments of Boeck, Cullerier, Taupin and Heyman. Boeck experimented on a large number of cases, and he took great care to mix the blood of the vaccinifer with the vaccin lymph. Here we have a record of three hundred or more direct efforts to produce vaccinal syphilis and every such effort was unsuccessful. It must be admitted that these experiments are a thousand-fold more valuable than the details of cases of alleged vaccinal syphilis, for they were conducted under intelligent supervision, and in accordance with conditions which were carefully observed. From these experiments the experimenters could and did know that the vaccinifers were syphilitic; that the lymph of a genuine vaccin vesicle was used, and if or not it was admixed with syphilitic blood or other inoculable matter. It should be remembered, in comparing these data, that the reports of cases of alleged vaccinal syphilis were wanting in every one of these essential points of observation; they were entirely accidental and were not expected to occur. Dr. Viennois of Lyons made an exhaustive investigation of vaccinal syphilis, and as result of his labors said: "There is no infectious quality in the vaccin matter itself, and if we employ the vaccinal fluid only in inoculating a healthy child, the operation will be safe. If the vaccin matter taken from a syphilitic subject is without any admixture of blood the result will be a vaccinal pustule only, without any syphilitic complications, either immediate or future." This, gentlemen, is the teaching of the profession of medicine in all countries at the present day. That some few persons have been infected with syphilis by persons attempting to vaccinate them, no one is ready to deny; but when such results followed, they were probably inoculations with syphilitic blood or virus, not vaccin virus. No physician, except for experiment, should ever vaccinate any person to serve as a vaccinifer, unless such person be in undoubtedly good health and known to be free from scrofula, consumption or syphilis. This proposition is reasonable, for it is wrong to risk unnecessarily anyone's health.

Call the attention of vaccinophobists to the fact that vaccinal syphilis has been so rarely pointed out, and they will say the profession is a body of blind worshippers over the grave of Jenner, and has never tried to ascertain the truth of the matter. Let us see if this be true. In 1856, fifty-eight years after vaccination had been generally practiced, the Board of Health of London issued a circular letter addressed to the various governments, asking information in relation to vaccination and its results. This board propounded the following searching question, among others: "Third. Have you any reason to believe, or suspect, that lymph from a true Jennerian vesicle has ever been a vehicle of syphilitic, scrofulous or other constitutional infection to the vaccinated person, or that unintentional inoculation with some other disease, instead of the proposed vaccination, has occurred in the hands of a duly educated medical practitioner?"

The Imperial Society of Surgeons at Vienna, Austria, replied: "Although it may be maintained that the blood of individuals affected with secondary syphilis can serve as a vehicle for this specific contagion, even this theory (if it could be proved) would not exercise any influence on the practice of vaccination; for both experiments made on purpose (Heim) and accidental vaccinations have taught that without considering the quality of the vaccin lymph, that taken from syphilitic subjects may have been used upon healthy persons and the contrary, viz., from healthy individuals and used upon persons suffering from syphilis, without, on such occasions, the latter disease having been conveyed with the cowpox. What has been proved in reference to syphilis may be applied equally to all other dyscrasic diseases, since this, even in cases of direct vaccination with their morbid products, has always shown a negative result."

The Faculty of Medicine at Prague replied: "The experience obtained in this country gives no grounds which leads to the belief or presumption that the consequence to a vaccinated person can be such as put forth in this question."

The Imperial General Hospital of Vienna replied in like manner with the Faculty of Medicine at Prague.

The Imperial Lying-in and Foundling Hospital replied: "A true vaccin pustule can not become the vehicle for conveyance of syphilitic or any other contagion."

From Bavaria the following reply was given: "In Bavaria up to the present time, two cases have happened of syphilis being inoculated with vaccinia. That was, however, in each of those cases the fault of the vaccinating physicians themselves; and the accident could in either case easily have been avoided, since syphilis was unmistakably present in the children from whom the lymph was taken. The inoculation of syphilis can at all times be avoided by an observant surgeon who uses due circumspection in choosing the subject from whom he will take lymph for vaccination."

The answer from Denmark was as follows: "The experience which we have acquired in this country does not lead to the supposition that lymph taken from true vaccin can be the means of communicating any scrofulous or constitutional contagion."

The Duchies of Holstein and Lauenburg said: "The experience which has been gained in the Duchies of Holstein and Lauenburg requires an answer to this question unconditionally in the negative."

The same question was propounded to every prominent physician and surgeon in Great Britain, including physicians and surgeons in charge of all the vast hospitals and public charities and vaccin stations, and no one of them failed to answer it in the negative.

Dr. John Simon, Chief Medical Officer of the Privy Council, examined thoroughly and exhaustively all the alleged cases of vaccinal syphilis, and, in his report for 1869, says but fourteen of all these alleged cases were to be attributed to vaccination, and every one of these fourteen cases were, he says, the result of malpractice on the part of the vaccinator. "If," says Simon, "our ordinary current vaccination propogates syphilis, where is the syphilis it propagates? Who sees it? The experience of this department is an entire blank upon the subject. For the last ten years we have been in incessant intimate communication with the different parts of England on details of public vaccination, and during these ten years every one of about 3,500 vaccination districts into which England is divided has been visited three or four times by an inspector specially charged with the duty of minutely investigating the local practice of vaccination; yet, from this systematic and extremely detailed search for all that has to be said upon the subject of vaccination in England, no inspector has ever reported any local accusation or suspicion that a vaccinator had communicated syphilis."

Hutchinson's cases have since been reported.

In North Germany, so late as 1873, the testimony has been given that only two cases of alleged vaccinal syphilis have occurred during twelve millions of vaccinations made there up to that date. Syphilographers—those men who are most highly accomplished in the study of the causes and sources of syphilis—have almost unanimously declared that the alleged cases of vaccinal syphilis were but inoculations with syphilitic products, and such results will never follow vaccination, even from a syphilitic subject, if lymph from a genuine vaccin vesicle be used. Venereal specialists, such as Lancereaux, Cullerier, Ricord, Langston Parker, Acton, Lee, Bumstead, Hammond and Keyes, never, in the whole course of their vast experiences, met with a single instance of vaccinal syphilis. But let it be admitted (in order that there may be some ground for the discussion) that every one of these cases of alleged vaccinal syphilis reported above was consequent upon vaccination duly and intelligently performed, even this would not detract one iota of the value of vaccination—the grandest discovery which has ever yet blessed man in his checkered career upon earth. Vaccination is capable of saving at least one million human lives every year; and if syphilis is actually proven to have occurred one time in a million vaccinations, is not all this fuss about vaccinal syphilis as a rational ground for abandoning vaccination the old story of the mountain in labor bringing forth a mouse?

The following extract from a letter (April, 1870) from Dr. Seaton, throws a flood of light upon this question of vaccinal syphilis:

"I am not aware of any fresh case of alleged introduction of syphilis by vaccination with humanized lymph since I published my book, but curiously enough there has been discussion lately in France on some cases of syphilis in children who had been vaccinated with animal lymph. Of course, the syphilis was a latent syphilis, and the vaccination could have had nothing to do with it, except perhaps to hasten its evolution; but the cases are instructive, and point, in my opinion, to the explanation of all the alleged cases of vaccin syphilitic inoculation with humanized lymph, except those in which there was downright carelessness and mixture of or substitution of viruses."

To show the dangers of contracting syphilis which beset man at every turn in life, the following illustrations are furnished:

But we have recently heard intelligent physicians say that if one case of syphilis is proven to have followed vaccination, then vaccination must be abandoned. Gentlemen, this is serious ground; and if applied with the same rigor to the other branches of our profession the practice of surgery, of gynecology, of obstetrics, and dentistry must be abandoned. And if applied to man in all his surroundings with the same vigor, he must live on air, for syphilis has been frequently caused by the necessary processes of eating food and drinking water. Further than this: if a few cases of syphilis contracted in any manner are to doom all things from which they were contracted to be banished from use by man, then our race must be content with the covering of skin placed upon him as he sprang from the hands of his Maker, for syphilis has been caused repeatedly by infected clothing. Let us take the simple process of cupping, to forcibly illustrate this proposition. It is a well established fact that an epidemic of syphilis was produced at Brun, in Moravia, in 1577, by cuppings done by the bath man of the town. Suizer observed cases of the same nature at Bamberg in 1602; Horst, at Ulm in 1662; Wideman, at Windshelm in 1620—in the latter instance seventy cases of syphilis were caused by the simple process of cupping. Catheterism of the Eustachian tube is a very delicate yet harmless operation, and certainly syphilis is not a necessary consequence of its performance, yet a number of cases of syphilis from this source have been established—as many as thirteen such cases have been reported at one meeting of the Medical Society of Hospitals in France. The operations of circumcision, catheterism of the bladder, uterine examinations, accouchment, removal and transplanting of teeth, the lancing of a furuncle, have caused numbers of cases of syphilis, and if the rule sought to be applied to vaccination be invoked against these operations, then their performance is criminal. Even the forks and spoons and drinking-cups and tumblers have caused large numbers of cases of syphilis; and yet who is ready to abandon the use of these articles because some fellow with a syphilitic mucous patch in his mouth used them, and a careless and filthy butler placed them back on the table without cleaning, and syphilitic infection followed? Again, it has been shown upon as reliable testimony as vaccinal syphilis, that wearing apparel and bedding used by a syphilitic person and afterward used by a careless or filthy son of Adam have caused syphilis; but we think the day is far distant ere this clothes-worshipping and bed-loving people will abandon these comforts because a few cases of syphilis have followed their use. These cases are all due to the same causes, *i. e.*, gross and inexcusable carelessness or filthiness.

That these cases have occurred is beyond question, and have produced ten times as many cases of syphilis as vaccination. The kiss of a lover has caused, by reason of mucous patches on the tongue, more syphilis than every one of the alleged cases of vaccinal syphilis. How often, Mr. President, do we meet with cases where, in consequence of ill health of the mother, or of insufficiency or total absence of flow of milk, a wet nurse is necessary to furnish food for the infant. There is scarcely a month but what the busy practitioner meets with such cases. Now, it is well known that syphilis has been caused in a vast number of infants by infection from syphilitic nurses. And yet because these unfortunate results are found, are we to forego the advantages of wet nursing, and thereby consign such children to the grave by resorting to cows' milk, or other more indigestible nourishment? Should we not display more prudence and judgment in selecting wet nurses? Again, how frequently have wet nurses been infected in nursing syphilitic children.

It must be admitted that in submitting to vaccination man incurs no greater risk of contracting syphilis than he does in submitting to the minor harmless operations in surgery or dentistry, or in the necessary process of eating food and drinking water in hotels, restaurants, railroad trains, hospitals, etc.

If vaccinal syphilis is thought to be liable to be transmitted by humanized vaccin virus, then those fearing this result have in bovine virus a full protection against such an accident. But this remedy will not satisfy antivaccinists, for when Dr. Carpenter made this statement Dr. P. A. Taylor (their leader in England) replied:

"I observe you add that 'tens' out of every 16,000,000 would vanish under calf-vaccination. Of course you are perfectly aware that it is not yet a settled question whether what is called spontaneous cowpox is (contrary to Jenner's opinion) protective against smallpox. Professor Simonds, Principal of the Royal Veterinary College, is (or was in 1879) distinctly of an opposite opinion. Speaking at the London conference on Animal Vaccination, he used these remarkable words: 'If this be so, you must fall back upon one of the old methods, and must inoculate your calf either with human smallpox, or horse-pox. In the former case, you come under the statement of Sir Thomas Watson, that by the use of this lymph 'there must have been a vast amount of mitigated smallpox spread about.' If you fall back upon the horse, you will be liable, I suppose, to such horrible outbreaks as that of glanders, under which thirty-eight children are supposed to have suffered in Italy.' The following is from the *Lyon Médicale* of June 22, 1879: 'On April 26 and 28 the local doctors vaccinated with this lymph (animal lymph) thirty-eight children, all aged less than

twenty months. While they were awaiting the incubation of the vaccin pustules, they soon perceived that they had inoculated one of the most horrible of maladies, and that they were the involuntary authors of a real massacre of the innocents. The gentleman who sent these particulars to the *Gazetta d' Italia* betook himself to San Quirico. He saw the victims. He observed vast phlegmons laying bare the muscles and penetrating into the joints, accompanied by eclamptic symptoms. To him it appeared to be very probably an epidemic of glanders.' But even supposing you are able to inoculate with 'spontaneous cow-pox,' what is to secure against the transmission of bovine disease? I take the following from a letter sent by the guardians of Ashton-under-Lyne to the president of the local government board a few months since:

"On December 13, 1879, Mr. Simon wrote:—'When a given (animal) body is possessed by one of these constitutional diseases (scrofula, syphilis, etc.), no product of that body can be warranted safe not to convey the infection;' and Dr. Creighton, of Cambridge University, gives the history of twelve cases of bovine tuberculosis in human beings, the disease being a more rapid form of consumption than that peculiar to man."[48]

"As the new lymph will be obtained from bovine animals, in whom this tuberculosis is hereditary, and occurs in 4.75 per cent. of any given number of cows, the guardians are anxious to know if the local government board is prepared to take the responsibility of introducing another formidable disease (bovine tuberculosis) to man by means of the system of vaccination. * * *

"Some crazy enthusiasts recommend that lymph be taken direct from the cow. They can not surely have seen those frightful pictures of the disease so produced, which were published by Mr. Ceely, of Aylesbury, some thirty years ago."[49]

After detailing the advantages of animal vaccination, Dr. Warlomont answers the objections to those who affirm that bovine tuberculosis and charbon may be transmitted by means of animal vaccination. It is admitted, in the first place, that tuberculosis may be inoculated. The experiments of Villeium, afterward established by Koch, demonstrate the possibility of transmitting tuberculosis by bacterial infection, the bacteria being also susceptible of cultivation apart from the body.

After detailing carefully the various experiments of Cohnheim and Baumgarten upon monkeys, rabbits and guinea pigs, including those in which tubercular tissue as well as blood taken from freshly killed tuberculous animals, was inoculated into the eyes of rabbits, Dr. Warlomont sums up as follows:

"It is to be inferred from the preceding data that the bacillus of tubercle can transmit tuberculosis either by means of tubercle itself, or by tuberculous blood, or by air exhaled from an infected lung. * * * It would be puerile to overlook the importance of these data in their relations to vaccination, either animal or human. The security henceforth endangered must be no longer established upon theoretic grounds. It must be supported by experimental facts which, fortunately, are not wanting. An extremely important fact is demonstrated by the experience acquired in the inoculation of tubercle, viz., *it is thus far found to be an impossibility to produce tubercular infection by the superficial insertion of bacilli.* In order to reproduce tubercle in an animal, it is necessary *to convey the bacilli into the depth of the tissues.* It is thus explained why no one is ever infected in making autopsies of tubercular subjects, and also *a fortiori* that no one has ever been infected with tuberculosis by the process of vaccination. * * * The absence, therefore, of a single fact establishing the possibility of producing tuberculosis by the superficial insertion of tubercle, as in the usual act of vaccination, assures us of the impossibility of such transmission, when the operation is performed with products having only remote relations to it."

The developments of modern pathology clearly prove that Warlomont was in error when he said: "An extremely important fact is demonstrated by the experience acquired in the inoculation of tubercle, viz., it is thus far found to be an impossibility to produce tubercular infection by the superficial insertion of bacilli. In order to reproduce tubercle in an animal it is necessary to convey the bacilli into the depth of the tissues." Sternberg, in his magnificent work on bacteriology; Ziegler, general pathology, and Green, in his work on pathology and morbid anatomy, 1895, all tell us that tubercular infection in man can and has been known to result from slight abrasions of the skin. Therefore if matter of any kind containing tubercle bacilli be brought into contact with the skin abraded for vaccinal purposes it is altogether possible for the individual so treated to become infected with tuberculosis. Now, while this is possible, as proven by the most recent researches of pathology, this danger is so infinitesimal as to be practically non-existant. How is this proven. Every modern authority upon pathology insists that when tuberculosis results from bacilli entering the system through a lesion of the body (an abrasion of the skin, for instance) it leaves behind a permanent change at the portal of entrance. In other words, that tuberculosis is at first a local disease, the formation of tubercle at the point of abrasion for vaccination, for instance. Now for the test: Of the hundreds of millions of vaccinations performed from 1796 to this day, no single observer has ever been able to point out so much as one case of tubercular process at the point of vaccination from either humanized or bovine vaccin lymph, crust or scab. The medical literature of the whole world does not furnish a single example of tuberculosis proven to have been in traceable connection with vaccination, humanized or bovine. But suppose tubercular infection did occasionally result from vaccination would that be a rational demand for the medical profession or mankind to eschew vaccination? Apply this rule of avoiding all danger and what results? Surgical operations must cease, for a vast legion of human beings have died from anesthesia. Opium must be thrown away, for in thousands of instances death has resulted from opium narcosis even when the drug was given by the most skillful men of our profession. Not one single instance has ever been recorded wherein vaccin lymph, even in a tuberculous subject, has ever been found to contain tubercle bacilli. Tuberculosis is a specific disease and can not result except by planting the bacilli in the system through a bodily lesion. There are no tubercle bacilli in vaccin lymph, therefore there can be no tuberculosis engendered by vaccination. But tubercle bacilli crowd men down at every turn by infection, ordinarily through respiration. A disease so universally and constantly threatening man as does consumption; it is idle bosh to engage in an idle warfare upon vaccination to prevent consumption, a disease more generally prevalent and fatal in pre-vaccinal times than it is at present. I could fill chapter after chapter with records showing incontrovertibly that consumption was more prevalent in pre-vaccinal times than at present. I give you only one instance. In the table already presented showing the general differential death rate in London per 100,000 living at seven different periods during the 226 years, 1629 to 1854, the mortality from consumption was as follows: From 1629 to 1636, 1,021; 1660–79, 1,255; 1728–57, 905; 1771–80, 1,121, 1808–10, 716; 1831–36, 567; 1840–54, 323.

Here, then, is the proof, and from it there can be no appeal that the consumption death rate in pre-vaccinal times was nearly four times as great as that of 1840–54, fifty years after vaccination was resorted to in London. Furthermore, the table shows that in the face of an increasing vaccination rate the consumptive death rate was not one-half as much in the period, 1840–54, as it was in that of 1801–10. To argue this question further would be an insult to your intelligence.

Erysipelas.—This is another bugbear of vaccination to anti-vaccinationists. No truthful man would pretend to deny that erysipelas is occasionally observed to attack the vaccinal process. But erysipelas is in no sense an integral part of vaccination. It is always and under all circumstances an epiphenomenon. Vaccinia and erysipelas are each specific diseases and differ one from the other as widely as daylight from midnight darkness. They are as essentially different entities as wheat and corn. Neither disease can give rise to the other more than seed corn can produce wheat. Erysipelas in connection with vaccination results from infection of the vaccinal wound with the germ of erysipelas. In other words, the erysipelas is due to the infection of the wound with streptococcus erysipelatis, the wound happened to be that of vaccination. Only this and nothing more. But, really, erysipelas does not occur near so frequently in association with vaccination as it does in association with minor surgical wounds. If all the requisites of modern surgical asepsis were carried out with cases of vaccination erysipelas would rarely, if ever, be encountered. The vaccin wound, vesicle and scabbing is left unbandaged, which is not done with other minor surgical operations, and the wonder is that it is not more frequently encountered. The vaccination wound being left uncovered is constantly an open door for entrance of the poison from an infected atmosphere, infected hands, clothing, etc., of the patient and his attendants. In a recent report of the Royal Health Office of Germany it was shown that out of more than 2,225,000 vaccinations made that year there were eleven deaths from erysipelas. Every intelligent, truthful student of medical history is forced to admit that without exception a similar number of wounds encountered in minor surgery has furnished more deaths from erysipelas than has vaccination. But let it ever be remembered that if there had been ten times that number of cases of erysipelas in connection with vaccination the former was in no

[48] October number of Journal of Anatomy and Physiology.

[49] Current Fallacies about Vaccination, by P. A. Taylor, M. P., London, 1881.

wise an integral part of vaccination. The existence of these cases of erysipelas loudly calls for better care of our vaccinal patients, but is not a tittle of argument against the propriety of vaccination.

Vaccinal syphilis.—Not one case of this disease was observed among these 2,225,000 vaccinations.

Inflammation of lymphatic glands and ducts.—Out of 2,225,000 vaccinations of the year there were four cases of inflammation of the lymphatic glands and ducts. There was no mention of death or permanent injury to health from this cause.

Inflammation of skin surrounding the vesicle.—Among the two and a quarter million of vaccinations made in Germany the same year a number of cases of severe inflammation of the skin in the neighborhood of the vaccin vesicles were observed, but no cases of permanent injury to health, or death resulted. These inflammatory conditions were by the inspectors generally attributed to irritation by the clothing, by scratching and by other mechanic means; for instance, the vaccinees during vaccination continued their arduous labors in the fields and mechanical pursuits.

An examination into all the facts relative to these cases showed that nearly every one of them was in direct traceable connection with faulty methods of vaccination or carelessness on the part of vaccinees or their parents.

REDUCTION OF GENERAL MORTALITY.

"Drs. Greenhow and Farr, under the auspices of the General Board of Health of London, have shown that, with the decline of smallpox consequent on vaccination, the general death rate has greatly diminished from all causes, and that, too, notwithstanding a severe and fatal epidemic of influenza and two epidemics of cholera; and under this diminution it is especially notable that the two classes of disease usually considered the most fatal—namely, scrofulous and low febrile affections—have diminished in a remarkable degree. The general death rate per 1,000 of living population, during the periods of 1846–55, was 25 per cent. less than the decennial period of 1746–55, and 40 per cent. less than the decennial period of 1681–90, showing a successive decline since the remoter period from 421 to 355, and since the more recent period from 355 to 249.

"According to Dr. Farr's statistics, the average annual death rates in London, from all causes and all ages, per 10,000 living, were:

From 1771–1780	500.
" 1801–1810	292.
" 1831–1835 (smallpox prevailed)	320.
" 1840–1854	248.9.

"The average annual death rates in Sweden, from all causes and all ages, per 1,000 living, were:

From 1776 to 1795	268.
" 1821 to 1840	233.
" 1841 to 1850	205.

"In McColloch's Descriptive and Statistical Account of the British Empire, Dr. Farr has shown that fever has progressively subsided since 1771 (at first under the influence of inoculation), 'and that the combined mortality of smallpox, measles and scarlatina is now only half as great as the mortality formerly occasioned by smallpox alone.'

"According to the researches of Dr. Greenhow, previous to the introduction of vaccination, the death rate from scrofulous diseases was five times greater than it is at the present time, and the present death rate of pulmonary consumption, great as it is, is 7 per cent. lower than it was previous to Jenner's discovery."[50]

But let us appeal to vaccinophobists for a preventive of smallpox, and they will say: "We believe in sanitation. Let the people have an abundance of pure air, water and food, and smallpox will not appear." Now, what does the whole science of medicine testify as to the etiology of smallpox? Here it is in a nut-shell: Smallpox spreads at the present time exclusively by means of a specific virus which is begotten in the body of a smallpox patient, and is conveyed directly by exposure of the person to one sick of smallpox, or coming in contact with infected clothing, bedding, etc. How absurd, then, is the claim for sanitation, for you can take an unvaccinated person to the purest air of the country, even upon mountain tops, and put him in contact with the virus of smallpox, and he will contract the disease as readily as if directly exposed to it in the filthiest slums of the filthiest population on earth. The same is true of water and food, whatever their purity. But put your unvaccinated subject into a house where all the decaying garbage of a city, both animal and vegetable, is piled high as the second story window, then pour water all through it, and call upon the heat of the sun to set all this putrefying mass into the most active putrefactive fermentation, and if smallpox virus has been kept away from it, your subject may die of a zymotic fever, but never of smallpox.

Now as to the last part of my subject.

THE FUTURE OF SMALLPOX AND VACCINATION.

This depends wholly upon man's action in the future. With all this incontrovertible testimony before us (and a thousand pages of a similar kind can be presented if need be) it is proven beyond the shadow of a doubt that in vaccination and revaccination duly and efficiently performed, man is capable of exerting absolute mastery over smallpox. The existence of an epidemic of smallpox at the present day, under the known prophylactic powers of vaccination, is a blot upon the civilization of the age in which we live.

A frightful comment upon man's ingratitude to Jenner, and disregard of Jenner's teachings, is that of Gloucester, as published in London *Lancet* and copied in the New York *Medical Record*, May 2, 1896, p. 634. The *Record* says:

"It is extraordinary to note how at Gloucester, a town in which Edward Jenner resided for years, this centenary year of the discovery of vaccination is being kept. First, we find a board of guardians in fair weather, when there was no smallpox about, declaring themselves boastingly to be opposed to vaccination; then, frightened at their own mischievous default, first recommending vaccination to the public by means of circulars, and later, when still more frightened, actually turning right about face on all their former boasts and resolves, and deciding to enforce the compulsory clauses of the vaccination acts. Secondly, we find that their experience—just one hundred years too late—has been most bitterly bought, for, according to last week's papers, out of ninety deaths from smallpox in the hospital (there have been 118 in all the city) seventy-four were of unvaccinated persons. Thirdly, we find that among this community which has so long been misled by the guardians, there have within a few weeks been some 700 cases of smallpox, and that in the absence of any controlling vaccination the disease has seized that part of the town where the sanitary conditions are by no means worst, but where there was an undue proportion of unfortunate children who were unvaccinated. Fourthly, we find some thousands of pounds being spent in attempts to check smallpox by hospitals, quarantining and disinfection, but all in vain, for the disease goes on multiplying just the same; indeed, there were no less than 172 fresh cases last week. And, fifthly, we find that even some of those most responsible for the terrible loss of life among the unvaccinated are hurrying to get protection by vaccination for themselves. We leave those who have been so grievously injured by disease, maiming and death, to apportion the blame. Here we only note with regret and shame that any British city, and above all Gloucester, should be in the state in which that city finds itself in the centenary year of Edward Jenner."

The New York *Medical Record*, April 25, through its London correspondent, shows that only one revaccinated person has been admitted into the hospital. She had undergone smallpox inoculation fourteen years previously and now contracted smallpox while nursing patients ill of the disease.

Last week's medical journals state that the smallpox epidemic in Gloucester continues to reap its fearful harvest of unnecessary sickness and death from this, when uncontrolled by vaccination, king of fatal diseases.

What a confirmation of the truth of the old adage, "Whom the gods would destroy they first make mad."

I give you two cases in contrast with Gloucester.

Take London, ten or twenty times more populous than Gloucester. During the year 1895 there were but fifty-five deaths from smallpox in London.

Take the German army. In a report recently made to the Reichstag concerning the decline of disease in the German army, it was shown that from 1873 to 1896 (twenty-three years) there had been but two deaths from smallpox in the thoroughly revaccinated army of the empire. These facts carry their own comment.

In this day when we hear so much of degenerated health from vaccinaton, and not infrequently death; when we hear so much of degenerated lymph, let us remember that the main trouble lies in degenerated practice relating to vaccination.

Let every physician arouse from the slumber of neglect of this important measure, cease to regard it as one of the lost arts, realize that it is a living, moving reality, which when rightly practiced and extended shall carry health, long life and happiness in its train. Let him pledge himself here and now to enter with renewed zeal upon the high duty of enlightening the public so grievously ignorant of or indifferent to the prophylactic power of vaccination. Let him who is unacquainted

[50] Transactions American Medical Association, 1865, p. 269.

with the appearance and phenomena of the typical vaccin disease lose no time in its study; and then from the unpretentious husbandman who, in raising wheat and other grain, selects the finest specimens as seed from which to gather from a fruitful soil an abundant harvest, learn to select the most typical vaccin vesicles from the most healthful subjects and in good ground sow the seeds of cowpox—a disease which if universally inoculated, and repeated at necessary intervals, would banish from the face of the earth one of the most loathsome and fatal diseases known to man.

On this Centennial celebration of the discovery of vaccination I close this paper with the following quotation from John Simon of Great Britain, for many years the honored medical officer of the local government Board of that nation.

"It can be no common certainty which commands so general an assent. It can have been neither a truthless nor a barren doctrine, which, within sixty years from its rise, has all but universally satisfied private judgment, and has converted nations to its grateful followers.

"No truth can be thought of, against which some one does not rail, and it would be idle to hope, under existing conditions of the human mind, that vaccination should be much more generally credited than it is.

"Perhaps in no age of the world have persons, in proportion to their instruction, been readier than now to accept physical marvels, and to modify their conceptions of natural laws, at the biddings of quacks and conjurers. It goes with this credulity to be incredulous of proved truth. Alike in respecting what is known, and believing what is preposterous, the rights of private foolishness asserts themselves. It is but the same impotence of judgment, which shrinks from embracing what is real, and lavishes itself upon clouds of fiction.

"To some extent, therefore, it may be felt a weary and unprofitable work to have spent time and labor in reasserting proofs which, fifty years ago, were exhaustive of the subject."

"They have enabled you to estimate the full measure of gratitude which is due to the discoverer of vaccination. They have set before you, as experience, what it must have seemed mere enthusiasm to foretell. You will read it in the skilled evidence of individuals, who, solely with the resources of Jenner's antidote, are maintaining day by day against the most dreadful of infections the victory which he commenced. You will read it in the colossal statistics of nations, which till sixty (now ninety-six) years ago were decimated by that one messenger of death.

"If utility to human life be any test of what is noble in labor, if our teachers of inductive philosophy have rightly advised us, *non tantum et ordini, verum etiam usui et commodis hominum consulere*—then assuredly the discovery, of which those things are told, may rank with any achievement of man.

"'Let men rejoice that there has shone so great a splendor from amid their race,' is the bidding which at Newton's tomb reminds us of immortal debts to the greatest interpreter of nature, and claims kindred for us with the power of his intellect, passionless and 'almost divine.' If corresponding honor be due to the most beneficent application of science, if our mortal state owes love to those who lessen its weakness and misery, surely here has been a second student of nature, who, also matchless in his career, might have claimed to lie beside that monarch of the intellect in his last repose, and to share the inadequate homage of that grateful epitaph.

"For, though a different, it is an equal praise, which the members of Jenner's profession vindicate for his honored name. He, too, could interpret nature, but above all, he could render her teaching fruitful. To arm mankind against the worst of pestilences, to widen by one discovery the horizon of human life, to banish a cruel terror from every mother's heart—such was Jenner's aspiration in his study of nature, such has been the fruit of his philosophy."

SOCIETY PROCEEDINGS.

Chicago Academy of Medicine.

The regular meeting of the Academy was held Oct. 15, 1896.

(*Concluded from page 960.*)

MENTAL ASPECTS OF INFANTILE PARALYSIS.

Dr. H. B. C. ALEXANDER—The mental symptoms arising in connection with infantile paralysis vary in type with the constitutional disturbance accompanying the paralysis. The most frequent permanent disorders occur in the cerebral paralyses where conditions of more or less grave imbecility are found accompanied very often with epilepsy. German and American statistics show that this occurs in at least 35 per cent. of diplegiacs, and 60 per cent. of paraplegiacs, while but 13 per cent. of hemiplegiacs are mentally affected. In many instances this mental disorder coexists with a gibbous sclerosis which seems to be the underlying lesion of the mental defect. In cases where epilepsy exists the usual epileptic psychoses occur. The mental state may vary in these chronic cases from slight stupor to grave mental deterioration. In many instances the mental defect appears only in moral expression. Not a few of these children are incapable of learning the ordinary relations of *meum* and *tuum*. The epileptic mental disorders are notoriously aggravated by bromids. Under these, motor phenomena disappear to give way to disagreeable mental and moral manifestations. The influence of the gradual progressing mental disorder is excellently illustrated by a case which came under my observation. The patient came from a neurotic family and suffered from suppurative otitis media secondary to scarlatina; this resulted in complete facial paralysis of the right side. During infancy and childhood there were frequent attacks of melancholia with decided suicidal tendencies. At 17 she cut her throat in an attempt at suicide and was admitted to the Insane Hospital. She was much depressed, very suicidal, in constant terror and trying to escape from the ward every time a door was opened. When she first came under my care in 1885, some years after her admission to the hospital, she seemed partially demented, with little intelligence or memory, very untidy in habits. Physically she was well nourished and healthy. There were at that time no marked suicidal tendencies, but the habit of struggling to escape from the ward each time the door was opened still remained and made her a most troublesome patient. There were never signs of disappointment at a failure. The effort seemed an uncontrollable impulse, the result of an old mental habit. September, 1884, she pulled down from the top a dining-room window, climbed over the lower sash, before she could be stopped, and fell from the third story. The shock was considerable, but she did not lose consciousness. A comminuted fracture of the shaft of the left femur was discovered, and the limb was soon placed in a fracture box and a Buck's extension applied. Very little stimulant was given. After the first twelve hours the temperature gradually rose to 101. She was very quiet, seemed dazed and frightened for several days. The temperature gradually fell to normal and six days after the accident marked mental improvement was noticed. She was bright and cheerful, talked of her past life, inquired for her friends, showed a good memory for past events, and was quite tidy in her habits. The bone united quickly, and in two months the patient was able to walk about and apparently quite restored mentally; was allowed to go home, but was very soon returned to the hospital in a condition similar to that before the accident and has remained so since. In this case the mental depression probably masked the dementia existing from the first and with the subsidence of the emotional state the dementia became more apparent and progressed with a gradually developing cortical change. The acute disorders occurring in connection with the infantile paralysis may vary from simple melancholia, which is quite frequent but temporary in duration, to acute mania, much more rarely acute confusional insanity, which is quite frequent but often called coma. Imperative conceptions often occur in these cases and are stimulated by injudicious humoring into positive delusions.

FORENSIC ASPECT OF INFANTILE PARALYSIS.

Dr. HAROLD N. MOYER—There is comparatively little to be said on this subject. The forensic aspects are only those that pertain to obstetrics. It is possible that a suit for malpractice might have its origin in infantile paralysis which developed subsequent to birth. There are none such recorded, so far as I know, and it would seem to be difficult to fix any degree of responsibility on a physician for a condition, so obviously dependent upon diseased states, and not upon negligence of the practitioner.

As regards infantile paralysis which develops prior to, or after birth, the question is different. The necessary manipulations during delivery of the child, instrumental or otherwise, may be very easily brought forth as a cause of the paralysis which follows, whether they have a bearing on it or not. As Dr. Paddock has said, obstetric manipulations may cause paralytic phenomena. The question of the law would be as to whether due care and diligence had been exercised in carrying out such manipulations. There is, however, a practical and important point relating to the jurisprudence of such cases. In all ordinary surgical operations that are performed on adults an action must lie within two years from the time the negligence is said to have taken place, otherwise it lapses by the statute of limitation, and no action can be had. If the paralysis has occurred in infancy, a suit may be brought in the case of a male child at a period as late as 23 years, that is, two years

after majority, and in the case of a female chile, it would be 20 years. There are quite a number of cases on record in which physicians have had such suits brought against them. I recall one case in which a suit was brought against a physician more than 22 years after he had attended a case of confinement, whether the paralysis was congenital or due to obstetric manipulations, I do not know. There was paralysis of the arm, which persisted throughout life. The man who brought the suit against the physician recovered judgment for not less than five thousand dollars; but on an appeal to a higher court the case was reversed, and whether it was subsequently settled out of court I do not know. These cases are important from the fact that actions may be brought long after the witnesses are dead or the facts forgotten by the physician. In the forensic aspect of infantile paralyses these cases are not wholly devoid of interest.

THERAPEUTIC RELATIONS OF THE PALSIES OF INFANCY.

Dr. SANGER BROWN—In a general consideration of this subject, I will first speak of those palsies due to a lesion of the peripheral neuron; then of those due to a lesion of the central neuron, and lastly of those due to a lesion of both neurons. It may not be out of place to state that by the central neuron I mean the nerve cell or unit whose body is in the cerebrum and whose axis cylinder process passes downward to end in an arborization or brush surmounting the body of a peripheral neuron, either in the medulla oblongata or in the anterior horn of the spinal cord. By the peripheral neuron I mean the nerve cell or unit, the body of which lies in any of the nuclei in the medulla oblongata or the anterior horn of the spinal cord and passes thence by the several nerve trunks to the various muscles. So far I have only spoken of the motor neuron, both for the sake of clearness and because the relations of the sensory neurons are not so well understood, nor are they so intimately concerned with our subject. The advantage of discussing the question according to this natural division appears when it is stated that the symptoms due to lesion of the central neuron are very different from those due to lesion of the peripheral neuron; that is to say, generally in the former case there is exaltation of the reflexes or a spastic condition without atrophy, and in the latter diminution or loss of the reflexes with atrophy. And further, no matter upon what part of the respective neurons the lesion may act, the relation of the several symptoms to each other holds as above stated.

Therapeutic measures should be directed, in the first place, as far as possible, to the lesion producing the paralysis, and, secondly, to the restoration of the injured neuron upon which the paralysis depends. Incidentally the nutrition of the paralyzed parts should receive prompt and careful attention in anticipation of the partial or complete ultimate recovery of the neurons concerned, and, finally, any tendency to deformity should be met without delay by suitable surgical and orthopedic devices.

I will now proceed to mention some of the peripheral palsies commonly met with in early infancy and childhood, commencing with the

Obstetric palsies.—During the process of delivery the fingers of the accoucheur may be so firmly pressed into the axilla of the infant as to injure one or more of the nerve trunks of the brachial plexus, thus causing a corresponding paralysis of the arm. In a similar manner the trunk of the facial may be injured by the blade of delivery forceps. In a case of this kind no active treatment could be employed for two or three weeks at least, and in the meantime the paralyzed parts may be bathed as the other parts are, care being exercised in handling the ailing arm, which may be kept wrapped in absorbent cotton. After two or three weeks, light massage and gentle movements are indicated. Prior to the fifth week, young children's muscles do not respond to any but very strong electric currents and so this agent can not be used here. No medication is required and the prognosis is good.

Facial palsy.—In the child, as in the adult, the seventh nerve may suffer from extension of disease from the middle ear or brain, but I need here only mention that from which, in children at least, almost always results from exposure to a draft and develops very rapidly the so-called rheumatic neuritis. Such cases usually recover in from two to twelve months, whether treated or not. It is difficult to demonstrate the utility of blisters, cups or leeches, applied over the mastoid process, though the practice is pretty firmly established and usually does no harm. Many patients demand electricity in some form, and both practical and theoretic considerations warrant its use, though in my opinion its direct value is not great. About ten days after the onset the patient may sit upon a flat electrode, four to six inches square, while a small electrode is moved slowly from the mastoid process along over the main divisions of the nerve, using a current of from four to seven milliamperes. The applications should be made three times a week and last ten minutes. Either pole may be used, but slow interruptions should be made.

Multiple neuritis.—A distinction ought to be made between an inflammatory process acting upon the nervous elements of the trunk of a mixed nerve and a toxic or toxemic process acting upon the bodies or nuclei of these elements. In the former case there is always tenderness of the nerve trunk at the seat of inflammation, and motor and sensory disturbance limited to the distribution of the respective nerve or nerves. In the latter case there will be no increased tenderness of nerve trunks; there will often be observed considerable motor paralysis with little or no disturbance of sensation, and when sensory symptoms are present they are not limited to the distribution of particular nerves. Though actual multiple neuritis sometimes occurs in children, if the peripheral palsies are classified in accordance with the foregoing considerations it will be found to be quite rare, while the non-inflammatory degenerative forms due to the influence of a poison acting upon the body or nucleus of the peripheral neuron are very frequent. The symptoms of multiple neuritis are usually active and more or less progressive for from four to eight weeks, after which they slowly decline. During the advance of the disease pain is a very prominent symptom, and to relieve this, maintain the strength of the patient, neutralize or eliminate any causative influence, and if possible diminish the inflammatory process, are the main objects of therapy. Where such causes as lead, malaria or alcohol are suspected, the appropriate treatment is obvious. For the relief of pain heat is often of service and if hot water is employed caution is necessary to prevent the formation of blisters, for it often happens that the sensation is so much reduced that the patient can not be depended upon to make the usual protest. On account of the impaired nervous force ulcers form easily and heal badly. In many cases it answers well to swathe the limbs liberally in absorbent cotton, confined with a loose bandage. Opiates should be used sparingly, that is, not regularly, for otherwise the pain remaining urgent so many weeks, too free use of this drug may have the effect of intensifying the symptoms; when, however, pain prevents sleep, morphia sulphate or codeia phosphate, hypodermically, will be found the best hypnotic. After the first few weeks, when the pain has somewhat subsided and paralysis and atrophy are easily seen, daily applications of galvanism, from 5 to 15 milliamperes, should be made, and as soon as it can be borne, light massage and passive movements may be commenced. It may happen that orthopedic apparatus or even tenotomy may have to be employed to prevent or overcome contractures.

Parenchymatous degenerations.—Of the parenchymatous degenerations of the peripheral neuron, due probably to the action of a toxic or toxemic influence on the nucleus, lead palsy and diphtheritic palsy may be taken as types. After proper measures have been directed against the cause, paralysis and atrophy may be treated as a multiple neuritis, but a more speedy recovery and satisfactory recovery may be expected. If it is a fact, as many authorities assert, that in diphtheria the knee jerks are always lost, and that this loss is due to the action of the specific toxin on the nucleus of the peripheral motor neuron, then in every case of diphtheria, strictly speaking, there is diphtheritic paralysis; that is to say, the nutrition and function of the peripheral motor neuron is impaired, and it is only a question of degree between the cases in which muscular weakness is or is not very apparent. According to what I have just said, if the claims made for the influence of antitoxin are correct, this substance must act specifically against the development of diphtheritic paralysis. I do not recall any published clinic observations on this point.

Acute anterior poliomyelitis.—This disease is essentially an acute exudative inflammation, affecting chiefly the anterior horns of the spinal cord in the lumbar and cervical enlargements, hence the paralysis is due to injury or destruction of the peripheral motor neurons whose nutritive centers are there situated. The therapeutic indications are, in the first place, to limit as far as possible the inflammatory process, and thus spare the neuron, and, secondly, as in all the other palsies due to a lesion affecting the peripheral neuron, to restore such of these elements as have not been destroyed and maintain by artificial means the nutrition of the muscles over which the diseased neuron is in the meantime unable properly to preside. Though the symptoms usually develop rapidly—often in a few hours—it is fair to assume that just in proportion as the inflammatory process is checked will the number of neurons which will ultimately recover escape. During this stage the patient, in order to promote the circulation in the cord, should rest either on the side or abdomen, and have hot and cold applications alternately made to the spine; an ice bag over the

seat of inflammation for half an hour, then a hot water bag for half an hour, and then neither for an hour, and so on; and, indeed, I consider it rational to continue this kind of treatment for from a week to ten days after the inflammatory process has probably reached its height. At the outset it is well to give one-tenth gr. of calomel every hour till the bowels and kidneys respond, and this may be repeated after three or four days if there are no contraindications. During this stage the diet should be light, and fever if possible should be treated by palliative remedies. For convulsions full doses of chloral per rectum are recommended. After the inflammation has subsided, potassium iodid in doses that will not disturb the digestion may be given for two or three months in the hope that it may promote absorption of the exudate. The second indication of treatment is met by the application of electricity, bathing, massage and orthopedics, as already indicated; but here permanent paralysis and atrophy are more likely to remain than in any of the palsies heretofore spoken of. Under judicious treatment, however, improvement may continue two or three years after the symptoms have reached their climax, and this fact warrants a corresponding persistence in the treatment. The explanation commonly advanced for this prolonged period of improvement is that each muscle is supplied by neurons which are distributed in the anterior horn transversely for an inch or more, and some of them therefore escape complete destruction and require from two to three years to reach their limit of recovery and development.

Paralysis due to lesion of the central neuron; infantile cerebral palsy; spastic hemiplegia, diplegia and paraplegia.—These palsies are associated with spasm without actual atrophy. The causative brain lesion may occur *in utero*, or as a result of prolonged difficult labor, or from various causes after birth. The causes which operate after birth are often obscure, and authorities differ much in regard to them. There is a general agreement, however, that the lesion is nearly always cortical, while in the adult it is in the majority of cases in the interior part of the brain. In the child convulsions and coma are usually prominent symptoms of the onset and though treatment during this period is of great importance, time does not permit me to discuss it, nor will I attempt to discuss the epileptic convulsions and mental defects which commonly accompany the infantile cerebral palsies; excepting that these children often have a deficient circulation, which is assisted by frictions and passive movements of the limbs. After the brain lesion has become stationary, such measures as have been recommended in the palsies due to lesion of the peripheral neuron are of little or no avail in effecting an improvement, and, indeed, often aggravate the symptoms by eliminating the pathologically excited peripheral neuron to increased activity. Surgery has of late shown brilliant results in relieving the spasm and contractures which are often such a distressing accompaniment of these palsies. I have already taken up too much time and can not consider many important palsies of childhood which yet remain, particularly, for example, those due to a lesion of both the peripheral and central neuron, as transverse myelitis; but I shall feel very well satisfied if I have succeeded in drawing attention to the essential physiologic difference between the functions of the peripheral and central neuron and the corresponding variations in the symptoms due to a lesion of each with the general principles of rational and appropriate treatment.

SURGICAL AND ORTHOPEDIC ASPECT OF INFANTILE PARALYSIS.

Dr. F. S. COOLIDGE—In discussing this subject, I shall speak from the standpoint of personal experience. The cases of this nature coming to the orthopedist are divided into two groups: 1, the cerebral paralyses, of which hemiplegia and spastic paraplegia form the major part; 2, the spinal paralyses, which, if we throw out the paralyses of Pott's disease, consist mainly of anterior poliomyelitis. I shall only have time to speak of the main forms of infantile paralyses. There is a great difference between the two groups. In the paralyses of cerebral origin the affected muscles become the seat of spastic contractions. Any slight irritation causes an involuntary contraction. Any effort to use even one of these muscles causes a contraction of them all. These incessant contractions result in shortening the bellies of the muscles and stretching the tendons. On the whole, the muscles are shortened and contraction-deformities finally occur. In the cases of anterior poliomyelitis the affected muscles are paralyzed, become limp and loose, the "sleeping paralysis" of the Germans. Flexions and deformities occur because the healthy muscles, pulling the member over to their side by their normal tenacity, meet with no opposition and become structurally shortened.

In the cerebral spastic paralyses, contraction of the affected muscles causes deformity. In anterior poliomyelitis contraction of the healthy muscles causes deformity.

The mechanical treatment of the spastic cases is rather unsatisfactory. There is always present some mental impairment, varying from a slight amount to complete idiocy. Furthermore, the difficulty is generally not the lack of power, for it is usually a paresis rather than a paralysis, but in the involuntary spasm of all the affected muscles. This in the severer cases renders a single act, as of placing one foot in front of the other, impossible, and causes a stiffening and extension of the entire legs with every muscular effort. To add the weight of a brace to legs already uncontrollable is, of course, absurd.

Until recently little of advantage was accomplished by surgery. A few years ago, however, it was found that cutting the tendo Achillis caused a wide separation of the cut ends, and that when the gap was closed the spastic condition of the calf muscles entirely disappeared. The strength of the muscles was possibly diminished somewhat, but they were placed under the control of the brain. I have never seen any plausible explanation of this remarkable fact, but have proved it in many cases. In none has the spastic condition returned. That the same is true of all the other muscles I have no doubt, except that the spastic condition does return in them occasionally. If we could cut all the tendons of the legs in a spastic paraplegia the spastic condition would disappear and the limbs would become controllable. Many of the tendons can be cut, and following the lead of Dr. Bradford, I have repeatedly cut the tendons of the adductors at the pubis, the internal and external hamstring groups and the tendo Achillis in both legs. This, together with massage and passive motion and teaching the child its newly found power of coördinate movement, has done a great deal, and has placed upon their feet children who had hitherto been helpless. Unquestionably the spastic condition in some cases returns in the course of years, but this may be partly due to the fact that not all the muscles can be reached. Noticing also that the spasm exists in the anterior thigh muscles, from the fact that frequently the patellæ are drawn up quite an inch, and that the belly of the quadriceps extensor is markedly high up, making what might be called a "ligamentum patellæ superius." I recently elongated this tendon an inch by cutting down, lengthening and suturing it, in addition to cutting all the other tendons above named. As this is, as far as I know, an original operation, I am watching the result with great interest. There is certainly decidedly less spasm in that leg than in its fellow, which I treated similarly, except for the elongation of the large extensor tendon. The child, who is 7 years old and never even stood alone, can now place one foot in front of the other quite definitely and walks with a hand supporting him.

The orthopedic treatment of the second group, anterior poliomyelitis, is of great importance. Early in the disease the limbs should be massaged and given passive motion, and if the paralysis remains complete for some time light suitable dressings should be used, holding the limbs in the normal position to prevent the formation of contraction-deformities. This simple rule is sadly neglected. In those groups of muscles in which there is slight power remaining, exercise and training can yield considerable strength. Those groups of muscles in which the paralysis remains complete after a few months never regain any power.

As soon as the line of demarkation is drawn between the totally paralyzed muscles and those which can be improved, it becomes necessary to apply some form of apparatus which will give the best possible use to the limb. But it is a hard task to perform, for in such limbs the circulation is extremely poor, the skin bruises easily and sores form easily. To fulfill all the indications, and yet guard against sores and discomfort, calls for long, patient, skillful effort.

With reference to the surgical treatment of this group, existing deformities should be corrected by tenotomies or forcible stretching before any brace can be applied. I had intended speaking of transplantation of tendons, suturing tendons of healthy muscles to the tendons of paralyzed muscles, thus making the healthy ones do the work of both; and also of stiffening the joints by partial resection, so as to yield a stiff bony support rather than a useless flail-jointed leg; but will leave this for Dr. Beck to discuss.

CEREBRO-SURGICAL RELATIONS IN INFANTILE PARALYSIS.

Dr. A. E. HALSTEAD—In the consideration of the treatment of infantile cerebral paralysis, by operative measures on the brain, it is essential, first, to briefly review the etiology and pathologic anatomy of these conditions.

Etiologically we have three groups: *First*, those in which the conception of this condition precedes birth. In this group we have as the most frequent causes:

a. An arrest of development of a part or a whole of the brain. This arrest may be due to heredity, congenital syphilis

or to any other condition that interferes with the circulation of the blood of the brain during early fetal life. An examination of the brain of these cases shows an absence or a partial development of one or more convolutions or at times of a whole hemisphere. In such cases we have idiocy associated with paralysis of one or more of the extremities, depending upon the location and extent of the brain lesion.

b. Intrauterine infections give rise to circumscribed or diffuse meningo-encephalitis, this in turn being followed by the formation of new connective tissues and later by atrophy and degeneration of the brain tissue. Frequently we have thrombosis of the cerebral vessels as a result of this infection, which later gives rise to circumscribed softenings and to the formation of cysts.

c. Trauma to the mother during pregnancy is infrequently the cause of congenital cerebral paralysis. Two of such cases are on record; First that of Gibbs, in which the mother received a blow on the abdomen at the sixth month of pregnancy. The child was born at full term with a right hemiplegia and died at the end of a month. Autopsy showed a subdural clot covering the motor area on the left side. The second was Cotard's case, which was similar to the preceding, excepting that the child was stillborn and had contractures and atrophy of the extremities on the left side. Autopsy showed clot over the right hemisphere.

In the *second* group we have those paralyses which result from injuries received during birth. The most frequent result of this injury is a meningeal hemorrhage. Occasionally the hemorrhage is into the substance of the brain. In a few cases a depressed skull fracture is followed by brain symptoms. Chronic meningeo-encephalitis with sclerosis, atrophy and the formation of cysts are the constant results of these meningeal hemorrhages.

In group *three*, those in which the paralyses develop after birth, we have as the cause, first, intracranial infections occurring during the course of the acute infectious diseases of childhood, such as measles, scarlet fever, whoopingcough, etc.

The pathologic conditions found in the brain in these cases are the same as those found in the cases where the infection has occurred during intrauterine life, viz., sclerosis, atrophy and adhesions between meninges and brain, and skull and meninges.

We also have in this group as the cause of paralysis, trauma received during the early years of life. This may be either a depressed fracture or a hemorrhage. The pathologic conditions following are the same as those that follow similar lesions that occur in adult life, excepting an arrest of development of the brain commonly follows in children. In the treatment of cerebral paralysis we must consider not only the palsy, but also those conditions which so frequently follow or accompany it, namely, epilepsy, chorea and mental defects.

In the first group, cases of cerebral agenesis are not amenable to surgical treatment. In those cases in which we have hemorrhage as a result of intrauterine trauma, if the child lives and the symptoms are such that the lesion can be localized, trephining and removal of the clot are indicated. These conditions are rarely present.

Where we have intrauterine infection as the primary cause of paralysis, the brain symptoms are more frequently the result of arrest of development than of the primary lesion. In those cases in which sclerosis and adhesions follow the infection, removal of the sclerosed tissue, if not too extensive, at times is followed by improvement of the epilepsy or chorea, but has no effect on the paralysis other than to make it more complete.

When the paralysis is due to injuries received during birth, it should be treated immediately by operative measures.

If the brain symptoms (paralysis, paresis or spasms) be the result of a depressed fracture, the fragment should be elevated at once. If no fracture be apparent the lesion is probably a meningeal hemorrhage, and should be treated by trephining and removal of the clot. If these conditions are not treated immediately after birth atrophy and sclerosis with secondary degeneration quickly follow and render operative treatment useless. If the operation is performed early these secondary changes do not take place.

In the third group, where the paralysis is due to meningeo-encephalitis, secondary changes take place rapidly and are such that operative measures on the brain can benefit the patient but little. In those cases that are followed by the formation of cysts, either from thrombosis, embolism or softening of circumscribed areas, opening the skull and evacuating and draining the cysts frequently produce favorable changes in the epileptiform, athetoid or choreiform movements that so often accompany cerebral palsies, but does not benefit paralysis or mental defects.

In any one of these groups, the paralysis may assume the form of a diplegia or a paraplegia, in which case the lesion is too diffuse to be treated by operations on the brain.

ARTHRODESIS IN INFANTILE PARALYSIS.

Dr. Carl Beck—All that was accomplished in the treatment of infantile paralysis was to enable the patient to hobble about supported by braces or heavy apparatus. During the last few years, particularly on the recommendation of Karewski, attempts have been made to treat these cases surgically. This departure has proven so successful that many unfortunate patients prefer operation to wearing heavy support braces. The operation, which is called arthrodesis, consists essentially in the destruction of a joint, producing anchylosis, or at least very restricted movement. The following case affords so good an illustration of the usefulness of the operation that I will describe it in detail, concluding with an enumeration of the indications and contraindications:

D. D., 15 years of age, was admitted to the Cook County Hospital for the purpose of securing a supporting brace for her paralyzed limb. Up to the age of 4 years she was a perfectly healthy child; she then became sick with the symptoms of acute poliomyelitis, which resulted in paralysis of both limbs. After about one year's treatment with electricity, massage and other methods, she improved so much as to be able to use her left lower extremity, while the right leg remained paralyzed, except that the adductors and the psoas muscle could be used to a certain degree, enough to allow her to throw the leg forward and inward, but she was never able to make any firm, premeditated movement. Extensive passive movements could be made; the leg could be placed around the neck or extended backward to bring the sole in contact with the head. While the patient was walking on crutches the leg would swing like a flail. During the following years it did not improve in the slightest degree, but became atrophic and slightly flexed. She was obliged to use a crutch all the time. The changes in the pelvis and vertebral column that are usual to cases of infantile paralysis, *i. e.*, scoliosis and incongruity of the pelvis, developed in this case also. It was in this condition that the young girl, who was very bright and otherwise well developed, came under observation. The case seemed to be a suitable one for treatment by operation, inasmuch as the slight but persistent action of the adductors and flexors allowed of the patient's throwing the limb forward. In order to convince myself that she would be able to walk on a stiff leg the limb was put in a plaster of paris cast. The slight contracture caused a good deal of pain when the limb was straightened, but she could, nevertheless, walk with the aid of a crutch. This being satisfactory I decided to make the limb permanently stiff. On Nov. 16, 1895, the operation of arthrectomy of the knee-joint was performed. In consequence of the long-standing contracture the bones had become deformed, and in order to have the limb perfectly straight it was necessary to remove quite a portion of the condyles anteriorly. Otherwise the operation was a typical resection. The result was excellent. Four weeks after the operation the leg was put in a water-glass bandage, so that the patient might walk in this very light dressing, and six weeks after the operation she was discharged with a high shoe. The operation which I first thought of performing on her ankle-joint was unnecessary, as she could walk firmly with her anchylosed knee. This patient was exhibited at a meeting of the Chicago Medical Society January 20. She was then able to walk without support for the first time in eleven years.

Since that time I have had occasion to observe several other cases, but the time which has elapsed since treatment is too short to permit me to make a report. From this one case, however, I have gained the conviction that arthrodesis is a justifiable and very useful operation, by which patients are enabled to use their limbs without the aid of crutches or braces. The indications, however, are very restricted, since experience teaches that by careful and untiring care many cases of infantile paralysis improve so greatly in the course of time that the muscles acquire some activity. In a case like this, however, where no change for the better had taken place in eleven years, it could not be expected that treatment would enable the child to recover the use of the limb. Furthermore, the small groups of muscles, adductors and psoas, unless trained become atrophic and it would not have been possible for the limb to be thrown forward had not her intelligence led her to practice the movement and preserve the muscles. As a first indication I would say that the operation should be done only after all hope is abandoned that the limb will become useful by the return of muscular action. Another condition is that power must be preserved in some muscles at least, otherwise the stiffness of the knee and ankle will be of no advantage. For-

tunately in most cases such a degree of muscular power is retained.

This method can be used in cases where the feet alone are paralyzed. In such cases Karewski and others have had good results in both limbs by producing anchylosis, which, however, gradually yielded to restricted motion; motion at a small angle, so that patients were able to walk firmly on their feet without braces. The operation would be contraindicated shortly after an acute attack of poliomyelitis.

The literature on this subject is already quite extensive, a number of cases having been operated upon in France, Germany, and this country. The results are uniformly good. Thus, Karasiewicz reports among eighty-seven cases eighty-four satisfactory results. When we think that many of these wretched children are not able to buy good braces, or to keep them in order, but are obliged to hobble about on crutches all their lives, developing contractures, decubitus, and deformities of the pelvis and spine, we must admit that this operation has proven a godsend in the treatment of infantile paralysis and that it deserves to be placed on the same level with other plastic operations. The object is not to restore form, but to restore the function (*la chose la plus principale pour la classe ouvrière*—Verneuil) and make the unfortunates useful members of society.

While I was on the Continent this summer I asked different surgeons how many craniectomies they had done, and what kind of results they obtained. In France, where craniectomy was first done quite extensively, it has been entirely abandoned. Lannelongue, who was the first to do the operation in France, has given it up. His results were not good enough to justify the operation. In Germany the operation has never been done to any great extent, and, as far as I could learn, only one or two operations have been performed. In Italy very few craniectomies are done. For the last three years I have not resorted to the operation myself.

After looking at Dr. Engelmann's specimen, I should say that a craniectomy would have been useless in such a case, because there is not simply a pathologic condition of the brain, but the entire nervous system shows lack of development. The nerves and spinal cord are very small, and the case was undoubtedly one of micromyelia and microcephalia. There is defective development of the finest elements of the brain. But there are cases where craniectomy may be of some use. The post-mortem of a case which I saw not long since showed me plainly that I ought to have performed a craniectomy, which might have been a great benefit to the patient.

As to the surgical treatment of anterior poliomyelitis, as Dr. Coolidge has said, orthopedic treatment in some of these cases does not yield good results. This is particularly true where we have to deal with poor and badly treated children, whose parents can not afford to buy an apparatus, and who can not keep the apparatus in good condition if they had it. Such children are neglected.

CRANIECTOMY AND MENTAL SYMPTOMS.

Dr. JAMES G. KIERNAN—From an alienistic standpoint it has long been decided that in the majority of cases the results following craniectomy were negative. It had at one time some support from the standpoint of the alienist, owing to the fact that cases would occur of this character; for example, one of the popes sprang from a family of which the majority were rather below the average mental standard than above it; in point of fact, idiots preponderated, and he himself was not intellectually of high order until he fell downstairs one day and sustained a fracture of the skull. From that time on he began to improve mentally and became somewhat renowned for shrewdness as a church politician. Such cases as this appeared from time to time in the literature. It was also noted in a few instances in autopsies made at insane hospitals, that there were some cases in which there had previously been skull pressure interfering with brain growth.

In another set of cases, and these were the vast majority, the influence of the premature closure of sutures could be entirely excluded in idiocy. This would appear to me to be the fact in the case reported by Dr. Rosa Engelmann. The atrophy in this case is more than pathologic. I should be of the opinion that the condition was teratologic as well as pathologic, and that the pathologic condition was secondary to the teratologic changes. From this standpoint, it would seem that craniectomy would be at best useless. A factor which must be considered in dealing with any apparent improvement, is the constitutional effect of an operation *per se* irrespective of its character, or location. This has long been recognized by alienists and is now being considered by surgeons. The influence of this factor is strikingly illustrated in the case reported by Dr. Harriet C. B. Alexander. Alienists have noticed from time to time that traumatism or even pathologic states will produce temporary improvement in old cases of insanity.

With reference to some of the etiologic factors, it should be remembered, as Dr. Baum remarks, that there are a good many conditions reported as scleroses, so-called miliary scleroses, which can be produced on the brain of any healthy dog by the operation of alcohol. In 1882 Dr. Bottcher of Saxony, made investigations on the children of women who worked in the potteries as to the influence of lead poisoning on the mother, because most of these women potters were then subject to lead poisoning. His results, which were very valuable, were published in several neurologic journals. In a large number of cases the women bore large-headed children, so-called macrocephalic idiots, in which the normal cerebral tissue was replaced by barren ependyma tissue. He found a large number of children, apparently healthy at birth, who later presented conditions similar to those cited by Dr. Brower as occurring in family paralyses. The autopsies in some cases showed the condition present, which was found in 1887 by Spitzka, and subsequently by others, to be a family tendency to miliary aneurysms. There was a tendency in a number of generations (in the family that Spitzka studied) to this. It seems to me, miliary aneurysms would throw some light on the phenomena observed by Dr. Brower. The child would have first the arterial condition predisposing to miliary aneurysm and subsequently aneurysm would develop which, either by rupture or by pressure, gave rise to the various conditions found in this class of cases. This condition would also to a certain extent explain the phenomena of diffuseness, of certain cerebral lesions in diplegics and paraplegics, to which Dr. Brown has called attention. This diffuseness of lesions bears directly on one point brought out in the discussion of the mental symptoms. The hemiplegic condition is generally due to localized lesions, while the other conditions are generally due to diffuse.

With regard to etiology, it is well known that most contagious diseases produce a secondary pathologic state closely allied to the luetic state. As Dr. Baum has said, physicians are apt to err, on the one hand by considering certain conditions occurring in luetics as the result of lues; while on the other hand, they are liable to regard the reaction to alteratives as an evidence of lues. Certain diathetic states, such as gout, will react favorably to potassium of iodid. Furthermore, it should be remembered in the same connection that when Hutchinson made the claim that the so-called Hutchinson teeth were due to lues, it was not as positive as many of his co-laborers have made it. He admitted that in 10 or 20 per cent. of the cases where notched teeth were found, no positive evidence of either lues in the ancestors or in the patient himself could be detected. That is one important factor we have to consider in connection with the etiology of infantile paralyses. It would seem that almost all contagious diseases have a tendency to produce a sclerotic state. Researches have shown that scarlatina and typhoid fever will do it, and herein is an explanation of the characteristic results of those conditions in producing these paralyses.

Dr. Halstead has alluded to the question of exsecting sclerotic masses. Exsection in the brain is going to be followed sooner or later by scar tissue. I have followed one case reported by a neurologist and surgeon in which one patch was removed from the brain, followed by disappearance of the man's symptoms for two years, after which they returned. A second patch was then removed, which resulted again in disappearance of the symptoms, since which the case has disappeared from the literature, whether from the results of a third operation or not, remains unknown.

CRANIECTOMY IN INFANTILE PARALYSIS.

Dr. ALEXANDER HUGH FERGUSON—Of all the craniectomies I have done this is the only one that died. I assure you that craniectomy has its place in surgery. Here was an infant, 7 months old, with constant fits, a history of long tedious labor and of delivery by forceps. The craniectomy in this case was undertaken for the purpose of ameliorating the child's condition and of lessening the fits, doing something better for it than can be done either physiologically or medically. I do not intend to report all of my cases to-night. Some of them will illustrate very well the benefits of craniectomy. I think no operation should be condemned until it has been thoroughly tried, particularly in those cases where every other form of treatment has been tried and found useless. It is in this class of cases that craniectomy has its exact place in surgery. We often get most benefit when least expected. In one case, a boy 7 years of age, there was paresis of the right arm with some mental impairment. He could only count up to seven. Convulsions were frequent. We recommended and did a craniectomy on the opposite side. He is now able with this arm to

throw stones and break windows. It is a little over two years since the operation was done. The convulsions have been materially increased in number. Instead of having a fit once a week, twice a week, etc., he now has a convulsion once in three months or so, depending upon the excitement to which the child has been subjected. However, the boy is very much improved, is more easily controlled, which is saying a great deal.

Another case was for the effects of meningitis. There was a dragging of both the arm and leg. This patient was a marvel in figures. After a craniectomy there was an amelioration of the violent symptoms which he exhibited toward other members (children) of the same family. The boy can also walk much better as the arm and leg improved. In another case in which craniectomy was performed the result was unsatisfactory. In still another operated upon we got no result. We declined to operate on another patient, believing that we could not benefit him.

A craniectomy was done on a child, 5 years of age, who was unable to stand, walk on talk. She was filthy in her habits. After the operation she began to improve in temperament and in habits and can now walk. On account of the improvement she was brought back for a second craniectomy, which I did four weeks ago, making a horseshoe-shaped incision backward and raising the whole roof to see if anything could develop underneath. We know that in cases of insanity it is remarkable how they improve with very little brain tissue and then relapse again. But if you improve the brain tissue for the time being it is better than can be done with medicine. In those children, feeble-minded, imbecilic and even idiotic, there is no telling what development and regeneration may take place after craniectomy.

Another case of craniectomy was that of a little girl of 3 years of age who had hemiparesis of both the right arm and leg. The child was unable to walk, had frequent fits and was also a masturbator. We did a broad craniectomy in this case; there was a depression of the left side of the head; there was a history of labor and of forceps delivery, but I attributed her condition more to the long and tedious labor than to the application of the forceps. Following the operation the fits were under control; she commenced to use the limbs better. The improvement was so marked that we did a second operation. After the second craniectomy she commenced to talk a little, and I am satisfied that the improvement in this case at the present time is more than could be brought about by resorting to medical treatment, training, etc. I claim that the mortality in those cases where the nerve centers are fairly strong is very low. The case reported by Dr. Engelmann to-night is the only one I have lost in twelve operations.

RHINO-LARYNGOLOGIC ASPECT OF INFANTILE PARALYSIS.

Dr. EDWARD T. DICKERMAN—What rôle the nose, throat and ear play as an etiologic factor in infantile paralysis is difficult to say. No part of the body is more prone to violent infections and to the constant presence of pathogenic factors of infection than the above organs. In the acute exanthemata of childhood we have in the nose, throat and ear the most violent mixed infections of the mucous membrane and deeper parts. These inflammatory changes may extend into the accessory sinuses and involve the bone itself. What is easier than from these various sources of infection to have the process extend along the course of the blood vessels or by the minute lymph channels to the meninges, setting up a local meningo-encephalitis with secondary sclerotic changes and accompanying focal symptoms? Another factor to be taken into consideration is the fact that certain toxic elements may first cause a definite disease and secondarily be followed by a paralysis, such as diphtheria. Here we may have first the local action determining the position of the paralysis, while later the toxic elements in the blood cause the peri-neuritis and neuritis with paralysis. It is also undoubtedly a fact that we may have this paralysis and neurotic changes without the local affection. This being true, is it asking too much to think that such changes could not occur in the brain itself? In looking over the literature of the subject, which is very meager, I find that as an etiologic factor, which might be traced to the nose and throat,—tonsillitis, diphtheria, measles and scarlet fever,—the reports were not of such a character that one could draw any definite conclusion, and the future will only reveal the exact etiologic rôle that these parts play.

ORTHOPEDICS IN INFANTILE SPINAL PARALYSIS.

Dr. JOHN RIDLON—A little more than two years ago, in a paper read before the Chicago Academy of Medicine, I expressed the belief that early orthopedic treatment of infantile paralysis was of the greatest importance. The results of my observation and treatment during the past four years have confirmed the belief expressed two years ago. I am satisfied now, beyond a question or doubt, that the early orthopedic treatment of these cases will result in a complete recovery in a considerable number of cases that otherwise would become hopeless cripples.

The orthopedic treatment of infantile paralysis consists in correcting the deformity, if any deformity exists, by mechanical or operative measures, and in constantly maintaining the limb in the corrected position for a very long period, supplemented by more or less local stimulation to the paralyzed muscles.

The choice between the mechanical and the operative methods for the correction of the deformity depends upon the severity and duration of the deformity. Speaking broadly, slight and moderately severe deformities should be corrected by mechanical measures: severe deformities by operative measures. The functional results are undoubtedly better if the deformity is corrected by mechanical measures. In recent cases no deformity exists that can not be readily overcome by gentle manipulation. The deformity having been overcome, retentive appliances must be carefully adjusted and constantly worn. The almost universal failure to cure or materially restore the usefulness of these paralyzed limbs depends more than any other factor upon the fact that the limbs are not constantly maintained in the corrected position. Not once during the period of the retentive treatment must the paralyzed limbs be put on the stretch. Few physicians and fewer patients and parents have the perseverance to continue the retention without relaxation for eighteen months or more, despite the fact that it is the key-note of success in these cases. During this long period of retention as full a restoration of the control of the paralyzed muscles takes place as can possibly be had, and structural shortening takes place in the hopelessly paralyzed parts. This structural shortening of itself alone is often sufficient to prevent a relapse of the deformity in limbs where whole muscular groups are completely paralyzed.

The local stimulation consists in lashing the paralyzed muscles with the looped end of a double strap, in massage, in local roasting either at ordinary atmospheric pressure or in a partial vacuum, and possibly also in the application of electric currents.

Chicago Ophthalmological and Otological Society.

Regular meeting held April 14, 1896, Dr. Gradle in the Chair.

There were sixteen members in attendance.

Dr. FISHER reported two cases of iron in the eye.

Case 1.—Mr. G. aged 37, struck by a piece of iron in the right eye fourteen years ago, which caused immediate blindness. He did not work for three months, since which time he has been troubled once a year, the attacks lasting at first about a week but becoming more and more severe every year since. The Doctor saw him February 13, 1896. On examination the right eye was found to be atrophic and tender; the left eye V. 20—30; the right eye was enucleated, and on section a piece of iron was found completely encapsulated, the lens being calcareous. The piece weighed 2^1_8 grains. The remarkable part of the case was the large size of the metal, remaining so many years without creating much disturbance.

Case 2.—Child, 4 years old. Right eye was injured while playing with two hammers on November 9. On November 11 the Doctor first saw the child. Vitreous was cloudy; no reflex from the fundus. There was a scar in the cornea with a corresponding scar in the iris where the foreign body had penetrated. The child was anesthetized and under strict antiseptic precautions a piece of iron was removed with the magnet. A small amount of vitreous was lost, but no reaction followed. In two weeks the globe was filled with pus and the eye eviscerated.

Dr. HOTZ reported a case of a piece of steel in the eye of a boy 12 years of age, who on March 1, 1896, was struck in the left eye by a fine chip from a hatchet. The chip pierced the center of the cornea and was seen by the family physician lying on the iris. Atropin was at once used twice a day. On March 4 the boy was brought to Dr. Hotz on account of the inflammation which had started up. A linear scar 2 millimeters long was seen in the center or the cornea. The nasal side of the pupil was fully dilated, the temporal side only slightly. On the temporal half of the iris above the horizontal meridian near the papillary margin was a white, pearl-like mass of exudate, from which the foreign body could be seen protruding. The lens and vitreous were clear and the tension slightly minus. There was some tenderness. Extraction was tried with the magnet through an incision made at the upper tem-

poral junction of the corneal margin, so that an iridectomy could be done upward if necessary. A magnet could not pull out the metal and a pair of curved forceps was used. The eye recovered quickly, the boy leaving the hospital at the end of four days. The lens, however, became cloudy afterward.

Dr. GRADLE spoke of the secondary results in the lens following injury to the eye, and quoted the case of a girl 4 years of age struck by the blade of a penknife, which cut through the outer quadrant of the left cornea. On the third day the iris became slightly entangled in the wound with some exudation at the margin of the wound. Atropin and a bandage were used, and recovery occurred after six weeks with the iris adherent to the wound. There were some deposits on the capsules of the lens, lace-like in character, but the lens substance itself was clear. Later the lens substance became opaque.

Dr. COLEMAN reported the case of a woman, aged 25, complaining of asthenopic symptoms for close work, no trouble at a distance. He found the abduction at 20 feet 10 degrees; the adduction 15 degrees; the right eye refraction — .50, the left eye—.50 ⌒ —4, ax. 180. With the rod test there was esophoria; with the double prism test there was exophoria of 3 degrees. For near the adduction was 12 degrees, abduction 18 degrees. She has been wearing the correction for some time, but is unable to read longer than three or four minutes. Exercise with prisms for four or five weeks without any increase of the adduction at 20 feet. A tenotomy of the left external rectus gave the test on the following day of 3 degrees esophoria with the rod and binocular single vision with the red glass. This operation was done only a few days ago, so that it is too soon to judge of results. Dr. Hotz suggested that relief might have been given to the patient if the spheres had been left out.

C. P. PINCKARD, Secretary.

SELECTIONS.

Illinois State Board of Health and Medical Education.—Under the proceedings of the Nebraska State Board of Health will be found a report of the investigation made by that board of a case where the applicant for a certificate to practice made an affidavit that he was a graduate of the National Medical College and Hospital of Chicago. He had no diploma, claiming that it was granted but held for fees. The board never having passed on the standing of this college, made inquiries as to its standing, and facts were brought out that the applicant had attended another school, had failed to pass, had gone to the National Medical College, and in two weeks was graduated. The board therefore refused to recognize the school, and the application for a certificate was rejected.

The first thing the board did was to ascertain whether the school was recognized by the State Board of Health of Illinois, it naturally being supposed that that board ought to know the standing of schools in its own State. Inquiry showed that the Illinois board did recognize the school, and had the Nebraska board not found out the facts referred to it would naturally have supposed the school was straight and would have recognized it as being in good standing. It showed on its face that it was; its catalogue and announcements made it appear that it had the full time required and everything that is supposed to be necessary to put a school "in good standing."

That the Illinois board is not what it was in the days of Dr. John H. Rauch is becoming more and more evident. This is not the only school in Chicago that the board recognizes as being in good standing, when evidently they are far from coming up to even a low standard. In the *New York Medical Journal* of August 25, Dr. Julius Grinker exposes one of these, the "Harvey." After commenting on a paper published in the *Journal* by Dr. Morton, of St. Joseph, on medical education, he showed up the sorry state of affairs which existed in Chicago and Illinois as follows:

"Allow me to state that upon careful investigation he will find in the city of Chicago, besides the three regular medical schools that maintain a high standard, a number of inferior evening colleges of medicine, the purpose of their existence being to defeat the spirit of the medical practice act, though they profess to comply with the letter of the law.

"These evening colleges of medicine grant diplomas after an attendance varying from six months to four years, which the State Board of Health recognize. Upon the payment of $5 and the presentation of such a diploma, the State Board of Health of Illinois grants applicants a license to practice medicine and surgery in the State of Illinois."

After eulogizing the Illinois State Board of Health as it used to be, he says:

"It is this very same State board of health—but now with another secretary—that enables colleges like the Harvey and Harvard night schools of medicine to do a thriving business of inducing young and middle-aged men and women to leave the workshop and the stock yards, where they slaughter cattle, for the more remunerative occupation of slaughtering mankind."

Speaking of the Harvey Medical College, Dr. Grinker says:

"This school, as well as others of the same character in the city of Chicago, allows its students to work all day at their respective operations, and exacts of them an attendance upon lectures three hours evenings, namely, from 7 to 10 P.M., although excuses of three months' absences are accepted.

"As for clinics, they receive mention in the *Catalogue*, and students graduate without ever having seen a single capital operation at the college, their being no hospital connected with it, and but few dispensary clinics.

"The facilities of the school are of the most limited kind. It is located on a floor and a half of an office building, where there are a dentist, a private dispensary of an advertising doctor, and a good-luck store. One can form an idea of what kind of material they can get up there for the benefit of evening students."

Dr. J. W. Scott, the secretary of the State Board of Health of Illinois, answers Dr. Grinker in the *Journal* of August 15, and accuses him of having been connected with the school himself, and in reply to this Dr. Grinker says (see *Journal*, August 29):

"The history of my connection with Harvey is as follows: After having read in the papers that the Illinois State Board of Health has decided to recognize the Harvey School of Medicine, I allowed my name to be used in connection with a professorship. I was invited to the college, and the secretary offered me the chair of pathology, which I accepted. Previous to my acceptance I had several conversations with the secretary in regard to the scope of the institution, its work and its ultimate future, from all of which I gathered the remarkable admission that this school was only intended to be a preparatory school, a so-called "feeder" for the day schools of medicine, and that it was expected that some day one of the regular day schools would buy up the night school and amalgamate with it. She assured me on a later occasion that her senior class was virtually useless, that none of the members of the class had a right to graduate, and it was not intended that they should. I then reasoned: Are there not reputable physicians teaching popular physiology and chemistry in the New York evening high schools, and why should I not connect myself with a preparatory school of medicine?

"And here comes the most interesting part: As long as I was only teaching pathology to juniors I had no idea of the mental caliber of the seniors, who never were juniors in this institution, and some not in any; but when my colleague, the regular professor of practice of medicine, temporarily discontinued his course of lectures, I had ample opportunities in my quizzes and lectures before seniors to form a correct estimate of the composition of the class.

"Imagine my surprise when at the end of the term I received a note to come down to the office and sign diplomas! About the same time I was informed that students would graduate as full fledged doctors, and eight diplomas were presented to me for my signature as the professor of pathology. I asked for credentials which would show that those eight seniors had passed in my branch with some reputable teacher, but was told that the directory was well satisfied that the students had passed in pathology somewhere. I then stated that I should not attach my signature to any of those diplomas until I had satisfied myself that the holders of them had passed in my branch. The secretary then told me that students might produce credentials if they saw fit to do so, but that they would graduate anyhow; furthermore, that such a request on my part was unheard of, and I was the only one of the faculty asking for credentials.

"It was at this time that I discovered a diploma mill, and I hastened to resign my professorship immediately, and who would not?

* * * * * * *

"On the evening of the same day I met Dr. Scott, and asked for an investigation of Harvey Medical College.

"Never was I more surprised than when Dr. Scott, whom I saw for the first time, answered all my objections in almost the same words that the secretary of the college had made use of the previous day. He knew by heart the name of every graduate of Harvey College, and was armed with an array of arguments that were simply astounding."

And Dr. Grinker goes on and shows that Dr. Scott knew too much about the Harvey Medical School not to be intimately connected with it. Proceeding, he tells of the fight he and others made before the board to have the school declared not in good standing; how Dr. Scott, the secretary of the board, fought them at every step, and how he finally gave up in disgust.

It is interesting but not pleasant reading when one remembers what the State Board of Illinois used to be. What has become of the spirit that used to animate it? What has become of the spirit and courage of Dr. Rauch? There was a time when the Illinois board was a beacon light for those who were striving to elevate the standard of the medical profession of the country. It gave courage and hope to those who were anxious to raise the standard of medical education in the United States so that the title of "American doctor" should cease to be a reproach, but rather an honor, before the people of the world. There was a time when if the Illinois board recognized a school it was recognized over the country. There are eighteen medical colleges in Chicago, exclusive of the post-graduate schools, and of these seven ought to be recognized, and no more. There is not one of the others that comes up to even a fair standard. And yet what can the Nebraska and other boards of health do if these schools show up the required three years' course and clinical instruction? Nothing. With our present law they must recognize them, unless evidence outside can be procured that will give a good reason for refusal.—*Western Medical Review.*

Intercurrence of Infectious Diseases.—In the *Archives of Pediatrics*, Dr. Alfred Hand, Jr., of Philadelphia, reports two cases, brothers, in which there was the coexistence of two and three (respectively) zymotic affections.

1. W. B., aged 6 years, suffered from diphtheria with a second attack of measles. On February 10, he came under notice, complaining that his throat had been sore for several days. Inspection then showed swollen tonsils with distended follicles and a slight grayish deposit on the right wall of the pharynx, the gland at the angle of the jaw was scarcely palpable, the temperature was 98.6 degrees and the pulse was 85. A culture was taken from the throat, and the child was isolated and put on tincture of the chlorid of iron internally, and the above mentioned spray locally. On February 11, at 10 A. M., the clinic diagnosis of diphtheria was clear, the pseudo-membrane having spread from the pharynx over the posterior pillar on to the tonsil, causing glandular enlargement and an intermittent weak pulse. The clinic diagnosis was confirmed bacteriologically, and as soon as possible 600 antitoxin units were given. On the following day the membrane was much less in extent, and by the next day it had entirely disappeared, strychnin and digitalis seemed indicated, the latter and the iron being given for six days, the strychnin being continued for two weeks and a half. The case ran without fever at any time until February 24, when the temperature rose to 102 degrees. Measles was suspected, but the mother asserted that he had had them four yeas ago, and from her description of the disease as it affected her five children there seems to be no reason to doubt that it was true measles and not roetheln. However, three days later, W. B. was covered with a typical rash of measles, the temperature curve showing the prëeruptive remission and the eruptive rise. Convalescence was without incident, the diphtheria bacilli persisting until 5 per cent. nitrate of silver solution had been used locally. The immunity which one attack of measles usually furnishes toward a subsequent one is, it is well known, sometimes overcome. That it would occur more frequently is probable if the infection should be so concentrated and the exposure to it so long as in W. B.'s case. It was not possible to isolate the brothers on the appearance of the measles, and the two occupied the same bed.

2. C. B. who had an intercurrence of diphtheria, measles and chicken-pox, was 4 years of age. He was first seen February 7, having numerous varicellar blebs on face and hands. The source of contagion was readily traced. On February 11, having been exposed to diphtheria, as shown in the first case, he was carefully examined at 10 A. M. for signs of pseudo-membrane, none being visible in the nose or throat, although the throat was reddened. At 1:30 P. M., as he was about to receive an immunizing injection of antitoxin, his skin felt warmer than normal, and the thermometer showed a temperature of 101.6. The pulse was 140, the glands at the angle of the jaw were swollen and the left nostril was occluded by the swollen mucous membrane and a thin gray pseudo-membrane. Six hundred antitoxin units were injected and cultures were taken separately from the nose and fauces, the report from the bureau of health being affirmative as to the presence of the diphtheria bacilli in the pseudo-membrane, but negative as to their presence in the throat. On February 12, his temperature was 100, and the left nostril was apparently in a perfectly healthy condition, all the swelling and the pseudo-membrane having disappeared. The temperature stayed slightly above normal for several days, the explanation for this not appearing until February 14, when the child was covered with a profuse measles rash. An irritating cough was a prominent symptom, and a slight exudate was detected on the left tonsil, but a culture from this failed to show the diphtheria bacilli. Convalescence was uninterrupted, being rather protracted, as the diphtheria bacilli were obtained by cultures from the nose (and ultimately from the fauces) for three weeks longer, in spite of, or possibly because, local treatment by means of a spray consisting of equal parts of peroxid of hydrogen, listerin and water. The rest of the medication consisted in a few doses of strychnin, tincture of the chlorid of iron, and of a cough mixture composed of ipecac and citrate of potash.

It is also interesting to note the presence of the diphtheria bacillus in the respiratory passage during the marked catarrhal lesions of measles, and yet with no formation of membrane. Whether this can be ascribed to the antitoxin injections or not, can not be established, but under former modes of treatment a relapse of diphtheria might, with reason, have been expected.

The "Livery" Phase of Gout; The Case of Sir Walter Scott.—Dr. George Harley writes upon gout for the London *Lancet* of July 4, referring in an interesting way to the tortures that were undergone, through the malady, by that friend of our boyhood's reading hours, Sir Walter Scott. He says, "Murray Forbes said that gout, diabetes, renal calculi, gallstones and jaundice may all occur in the same patient. In order that the reader may not suspect me of manufacturing a case to confirm the statement, I shall furnish him with one whose authority is beyond dispute, seeing that it is none other than that of the renowned Scottish novelist, Sir Walter Scott, extracted from his own diary, and thereby rendered all the more valuable from the fact that the account he gives of his clinic history is alike unbiased by medical dogma and personal theory, for he was a lawyer and not a medical practitioner. Sir Walter tells how he had to diminish the use of alcohol 'for fear of a weakness in the direction of diabetes, a disease which broke up my father's health.' He also says he 'was seized with a most violent pain in the right kidney, which Dr. Clarkson diagnosed as renal gravel augumented by bile.' In Lockhart's life of Scott it says he occasionally suffered agonizing pain from the passing of gallstones accompanied with jaundice. Sir Walter himself

describes more than one of 'these excruciating attacks.' Moreover in various parts of his journal Scott refers to the violent attacks of gout he had at different times in his feet, knees, gums and back, comparing the pain to a 'scorpion's bite,' and its intensity as being sufficient to make him 'howl.' As is the case with most 'livery' subjects Sir Walter Scott was subject to fits of great mental depression. Alluding to one of these in 1826 he says it was accompanied by 'a fluttering of the heart' and a feeling as if he 'knew not what was going to befall' him. Like many other gouty and 'livery' people Sir Walter Scott ultimately died from apoplexy, so that his is a most instructive case of hereditary liver derangement, associated with gout, diabetes, renal calculi, and gallstones, and ending in apoplexy. When all the foregoing hepatic pathologic data are considered it is evident that gout in different people must require entirely different forms of treatment. And in order to treat a case philosophically each individual constitutional peculiarity must be prescribed for quite as carefully as the special condition denominated gout, for while one patient may be benefited by colchicum it may on another act as a poison. Carbonated alkali does good to one, and iodid of potassium acts like magic on another; whereas, as Scudamore discovered, many require their livers to be set to rights before any gout remedy whatever is of the slightest use. This is one of the reasons why several of the vegetable purgatives, in combination with quinin and digitalis, have been vaunted by some of our continental *confrères*, and mineral waters by others as podagra specifics. But the curative effects of both the one and the other of them spring mainly, I believe, from their hepatic action. Piperazin, salicylate of soda, diuretin, and guaiacum are all useful in certain cases. Exactly in the same way different gouty constitutions tolerate different wines. It may, however, be laid down as a general rule that the less acid and the less alcoholic a wine is the less likely is it to disagree with a gouty patient. Hence it is that the sour forms of champagne at present sold in England should in all cases be shunned, no matter what one is told by the uninitiated to the contrary. Champagnes such as the French themselves drink are the safest, for that sugar gives gout is alike contrary to scientific observation and every-day practical experience. Again while hot applications with anodyne liniments and hot alkalin fomentations are of marked benefit to some, I know from personal experience that ice applied to the painful part until the skin over it is frozen will occasionally give immediate relief. Massage again, either moist or dry, when it can be tolerated often greatly expedites the cure. Gout is such a protean form of disease that no special line of treatment can be formulated for it as a whole, each constitution and each individual paroxysm requires to be treated according to its own special conditions."

PRACTICAL NOTES.

Treatment of Children's Burns.—For superficial burns, lotions of warm or hot boiled water, followed by the application of a tarletan compress folded five or six times and dipped in a solution of boric acid, 10 grams; antipyrin, 6 grams; sterilized water, 250 grams. Bandage with the following salve: Boric acid, 3 grams; antipyrin, 1 to 2 grams; vaselin, 30 grams. Preserve the epidermis as much as possible and merely prick the blisters at the lowest point. If the burn is on the hand or arm, it must first be plunged into a basin of warm boiled water, reducing the temperature gradually, and washed with soapy water, then with a 2 per cent. phenic water, and the blisters pricked without removing the skin. If there is pain, moisten with a tarletan compress wet with a solution of saturated boric water, 500 grams; laud. Sydenham, 4 to 10 grams. After this Reclus' salve can be applied: Iodoform, 1 gram; antipyrin, 5 grams; boric acid, 5 grams; vaselin, 50 grams. If the burn extends over a large surface of the body, the garments must be removed with the greatest care not to tear off any of the epidermis, which must always be carefully preserved. Then place the child in a large warm bath, and perform the antiseptic toilet of the parts involved, with chloroform anesthesia if necessary, and dress the same as a hand or arm. For deep burns, after the antiseptic toilet of the parts involved, apply a dry bandage of iodoform gauze with plenty of cotton. If the burn is on a member it can be dressed with the following dry powder to attenuate the suppuration: Iodoform, 2 grams; charcoal and quinin, each 50 grams. Wait, if necessary to amputate, until after the shock period has passed.—Périer in the *Journal de Méd. de Paris*, September 6.

Placenta Previa.—A writer in the *Medical Sentinel*, October, remarks that Dr. Senn in his address at Atlanta came in closer touch with the great mass of laborers in our profession, than any other writer has in anything presented to us during the present year. He proceeds to describe a couple of cases of placenta previa, emphasizing: 1. The beneficial effect derived from ergot, and its application to these cases, producing such strong contractions, the tonicity of which was permanent for hours. 2. While it is fatiguing, still the hand makes an excellent tampon for applying pressure, and at the same time can be utilized as a dilating agent of the os, when time is such a valuable factor. Again the dilation consequent upon its use prepares the vulva and perineum for the passage of the head when we resort to the use of forceps.

Artificial Serum for Washing out the Serous Cavities.—Mengus (*Indépendence médicale*, July 22), relates two cases. The first a hydrocele of the tunica vaginalis testis that had relapsed after the employment of an injection of tincture of iodin. It was cured by injecting a boiled and filtered 0.70 per cent. solution of sodium chlorid at the temperature of 104 degrees F. The second case was one of ascites in a patient with heart disease. Paracentesis had had to be performed six times in the course of five months, and the man was becoming cachectic. The seventh puncture was followed by the injection of about a quart of the same solution at the same temperature. After massage, about three quarters of the amount was withdrawn. The patient regained his general health, and at the time of the report, three months afterward, no further effusion had taken place.—*N. Y. Medical Journal.*

Cocainization.—Reclus has a record of 3,500 successful cocainizations, and always administers it to the patient in a reclining position, retained until after he has eaten something. He also uses a hundredth solution in all cases, and never allows it to be injected into a vein, nor in larger quantities than 12 to 15 centigrams. He states that cocain allows important and delicate operations to be performed almost without assistance, and without the loss of time, the annoyance and the dangers of chloroform. He considers its use indicated in the removal of subcutaneous tumors, in incising an abscess, in ingrown nails, amputations and disarticulations of the phalanges and metatarsus, in herniotomy, in the radical cure of hernia and hydrocele, in anal dilatation, circumcision and castration, in opening abscesses and hydatic cysts of the liver and in making an artificial anus. The long duration of the anesthesia is a point in its favor; the skin can be sutured without pain even after an operation that has lasted twenty to twenty-five minutes. If the above simple rules are followed, there need be no fear of syncope, which is the fault of the administrator and not of the cocain. The reclining position is imperative.—*Revue Int. de Méd. et de Chir.*, September 10.

Chronic Pericarditis Simulating Cirrhosis of the Liver.—Pick reports three cases in which the clinic picture was that of cirrhosis of the liver, but in which the autopsy showed, in spite of the fact that there were no symptoms of heart disease, that a chronic adhesive pericarditis was the primary affection

to which the condition of the liver was secondary. He sums up his paper as follows: There is a complex of symptoms which simulates mixed forms of cirrhosis of the liver, with hepatic enlargement and great ascites, but without icterus, which is due to an increased growth of the connective tissue of the liver from the disturbance of circulation produced by a latent pericarditis. This may lead, through stasis in the portal circulation, to the most enormous ascites. This is more common in early life, but nevertheless is also observed in later years. In the differential diagnosis stress must be laid on the lack of any etiologic factor for cirrhosis of the liver, a history of the previous pericarditis and edema of the feet, and a thorough examination of the heart.—*Boston Medical Journal*, October 8, from *Ztschr. f. Klin. Med.*, Nos. 5 and 6.

Congenital Luxation of the Hip Joint.—Lorenz claims to avoid the disadvantages of the methods of Mikulicz, Paci and Schede, by what he calls his functional method. He proceeds first by reduction, then reposition, formation of the acetabulum and restitution. Reduction is accomplished by extension, with the use of the screw in narcosis; reposition by flexing, opening the acetabular cavity, and maximal abduction. The amount of outward rotation varies in different cases, and the smallest amount of abduction that will accomplish the reposition and maintain it, is the limit. Then follows three months' fixation of this position with an immovable bandage. The soft parts that formerly prevented, now press the head of the femur into place in the acetabular region, thereby modeling it in a measure. In the severest cases the limb can not be walked on for two or three months, as the amount of original abduction does not allow the use of a raised sole at first. This can be resorted to later as abduction grows less, and it is made lower by degrees from four to two centimeters, etc. The treatment lasts from six months to a year. It is adapted for children up to 6 years. Surgical intervention is necessary, of course, in cases of irreducible luxation. Double-sided luxations are treated together at the same time. Lorenz has treated thirty cases successfully in this way. Four double luxations produced unsatisfactory results. The advantages of this treatment over the surgical are that the number of passive movements is less, the treatment requires less time, and the leg is not shortened so much. Lorenz also emphasizes the importance of ambulatory after-treatment.—*Wien. Klin. Rundschau*, September 20.

Causes of Death after Laparotomy.—Fritsch of Bonn suggested at the recent congress of German Naturalists and Physicians, that whichever method a surgeon has made his own, and can perform with ease and rapidity, that is the best for him; but it does not follow that it would be the best for others. He considers that the results of the various methods in vogue are due not so much to the special method nor to antisepsis, as to the skill, rapidity and subsequent care of the operators. The normal blood destroys or eliminates the cocci, but if the heart is weak, the circulation sluggish, it is unable to effect this, and the cocci are not destroyed, but thrive and locate wherever they find a lowered vitality, as in the peritoneum after an operation. Persons do not die after a laparotomy because they become septic; they become septic because they are dying or while they are dying. He advises, therefore, that in cases of weak or debilitated heart, in thrombosis after pneumonia or influenza, it is best not to operate at all, but to wait. Debilitating measures, too cool baths, hunger, strong purgatives are to be avoided before the operation. The technique must be good; the after-treatment very careful. Lavage of the stomach, warm enemas, tonics, quinin, etc., combat the weakness. A long and tedious operation lowers the vitality, especially when the abdomen is opened, and hence perfected and rapid technique, whatever the method, increases the chances of success. He concludes by warning operators not to trust too much to antisepsis, but to improve their skill and help to establish the indications for the various typical operations, instead of trying to invent new ones.

Malacin in Rheumatism.—Malacin is a phenacetin with salicylic aldehyde in the place of the acetic acid. It has been tried in Russia as a substitute for salicylate of soda in a few cases of acute and chronic rheumatism, and its success warrants further investigation. The cure followed in four to six days; the pains rapidly disappeared and there were no stomach disturbances nor depression. It was administered in 1 gram powders three to five times a day; a total of 17 to 26 grams. It has also proved beneficial in neuralgia.—*Journal de M. de Paris*, October 4.

Goitre from Administration of Thyroid Extract.—A recent paper by Dr. Robert Hessler, of the Northern Indiana Hospital for Insane, gives an account of what corresponds to an attack of exophthalmic goitre, brought on by large doses of desiccated thyroid gland. The case was that of a cataleptic who had lain immovable in bed for over three years; there was an absence of motor and sensory activities; the feeding was by means of the nose-tube. Under increasing doses of gland constantly increasing activities resulted, until finally the patient "returned to life" and was able to speak and walk. At a time when 75 grains were given daily, symptoms of exophthalmic goitre appeared and the remedy had to be discontinued temporarily; the pulse going up to 160. In the course of a few days the patient relapsed to his usual condition but "revived" on again receiving the remedy, with a return of the symptoms mentioned. The case was reported in the *Indiana Medical Journal*. A similar case recovered promptly in a few weeks on small doses. The thus artificially produced exophthalmic goitre had all the characteristics of the natural disease, minus the glandular enlargement, and all symptoms disappeared on withholding the remedy or under a small dosage. From a study of this case, and several others receiving similar treatment, the author concludes that Graves' disease is due to an over-stimulation of the nervous system by products of the thyroid gland, and that the administration of this gland as a remedy is injurious; the proper treatment is one tending to reduce the functional activity of the thyroid gland.

Treatment of Pneumonia with Inhalations of Amyl Nitrite.—Hayem has used this treatment in seventy-five cases of pneumonia, and recommends it in high terms as successful in diminishing the dyspnea, rendering expectoration easier and improving the physical phenomena in general. One inhalation a day was usually sufficient, but occasionally one was given morning and night. Fifteen drops were inhaled on a compress at a time, repeated if necessary until 100 drops had been used, although the desired results were usually secured with less. The treatment was continued through the whole course of the disease, and for a couple of days afterward. He ascribes its efficacy to its influence on the circulation of the blood in the lungs.—*Memorabilien*, October.

Treatment of Post-Scarlatina Nephritis.—Schmey recommends his method of treating this dangerous complication as he has practiced it for ten years with unfailing success. It is especially effective in cases with a tendency to dropsical swellings. The child is wrapped in a wet sheet from head to feet, with a woolen blanket outside. He is then given every hour a teaspoon of syrup jaborandi until he is in a profound perspiration, and not until then is he released from his wrappings. This process is repeated every day until all the swelling has subsided, which is usually in the course of two or three days. He prepares the syrup by the following formula: 0.3 folia jaborandi concis., heated in a vapor bath for ten minutes, in 20 grams water. It is then strained and 10 grams sugar added. He administers subcutaneous injections of pilocarpin instead

of the syrup to children over 15, and has the pack preceded by a hot bath.—*Memorabilien*, October.

Tertiary Syphilis in a Child of Five.—Feulard describes a case brought to him for a sore in the nostrils, which examination disclosed to be a pronounced case of tertiary syphilis, with destruction of the nasal septum, the palate and the posterior part of the pharynx, the teeth shaped like the teeth of a saw with other unmistakable lesions. The father accompanying the child was a strong healthy man, who had two healthy grown daughters, all free from any syphilitic taint. The mother had died a year after the birth of this child, and the father had before this, grave reasons for doubting his paternity, although the child might have been infected while it was at nurse in the country. The case is remarkable for the rapidity with which the disease had developed unrecognized to the tertiary stage, and the fact that it had progressed without attracting attention or causing much annoyance to the child.—*Annales de Derm. et de Syph.*, September.

Hospital Contagion of Syphilis.—Fournier records the second case in his hospital experience of a patient being treated for eczema and being discharged cured, returning soon after with syphilis contracted in the hospital. He is inclined to ascribe the contagion to the patient having perhaps exchanged caps with some syphilitic, as such extreme precautions are taken at the Saint Louis to prevent infection. Leredde suggests that syphilitics with lesions in the mouth ought not to be allowed to expectorate promiscuously any more than tuberculous patients.—*Ann. de la Soc. de Derm. et de Syph.*, September.

Tuberculosis of the Spinal Cord.—Schlesinger describes a case of pronounced motor and sensory disturbances in a man of 42, commencing with sudden vertigo and vomiting of fluid through the nose, violent pain the right half of the face, and terminating fatally with complete ataxia, etc. The necropsy revealed an isolated tubercle in the spinal cord, its maximum of development corresponding to the third cervical. Transverse section showed that it filled almost the entire space of the spinal cord, only a thin layer of white matter partially surrounding it. The gray matter had entirely disappeared. The tubercle diminished in size as it approached the first cervical, where the lesion was confined to the gray matter. A few scattered follicles were found at the decussating point of the pyramids. The medulla was unusually large.—*Presse Méd.*, October 3.

Non-Surgical Treatment of Peri-uterine Phlegmon or Pelvic Cellulitis.—Lutaud treats non-suppurating uterine phlegmon of the broad ligament behind or in front of the uterus by absolute repose at first, with narcotics, rectal opiates, etc., to arrest the pain which is always severe in acute cases, and is the best guide to the location of the tumor. He then controls the vomiting, fever and hyperthermia. He prescribes for this purpose: Antipyrin 2 grams, syrup of papaver somnif. 30 grams, spirit of menthol 10 grams, tilia-water 60 grams. A tablespoonful every hour. He sometimes applies leeches to the hypogastric region over the tumor when the phlegmasia extends to the abdominal wall, with mercurial salve and cataplasms. He also inserts medicated glycerin suppositories into the vagina, or tampons dipped in: Glycerin 30 grams, cocain hydrochlorate 1 gram. He keeps the vagina aseptic by warm irrigations three or four times a day, of the solution: Naphthol and chloral, each 10 grams, thymic acid 1 gram, alcohol 240 grams. Two tablespoons of this to the liter. Any other antiseptic can be used, except sublimate, which is too irritating for prolonged use. After the pain is under control, the tumor can be investigated, and even if there is suppuration, surgical intervention is not always necessary, as numerous examples are known of the tumor discharging spontaneously into the rectum, the bladder or vagina, followed by complete cure. The spontaneous discharge may of course produce fistulas or multiple pelvic abscesses, which render laparotomy or hysterectomy inevitable. But if, as often happens, there is no suppuration, the tumor hardens and is not painful, but dangerous on account of the adherences produced. The treatment in these cases is principally by massage to destroy the adherences and restore movability to the uterus, while assisting the complete resolution of the neoplasm. He sometimes also uses blisters or conical cauteries, tincture of iodin or croton oil, with always oversight of the general health and especially of the functions of the bladder. He usually administers the following in cases of indurations and adenopathies: Sodium iodid 20 grams, syrup of bitter orange 500 grams. One or two tablespoons a day. He emphasizes the value of massage as one of the most effective therapeutic means of treating chronic affections of the uterus and the adnexa. By introducing two fingers into the vagina to the cervix or the seat of the tumor, and pressing with the other hand on the abdomen, the indurated mass or the adherent uterus can be seized between the two hands and by gentle and gradual manipulation reduced and rendered movable.—*Journal de M. de Paris*, October 4.

Dermatitis Roentgeni.—Dr. Conard, in *Codex Medicus*, August, reports a case of skin affection that was, in his opinion, indirectly referable to the X ray. "R. B., photographer, consulted me August 24 on account of what he considered rheumatism in the first and second fingers of his left hand. He complained of pain and swelling and stiffness of the joints. He had first noticed some discomfort in them about five or six days previously and had used some home remedies, but the pain and swelling increased. Upon examination, I found the first and second fingers swollen and extremely sensitive to the least touch and of a peculiar, livid brown color on their dorsal surfaces from the tips down to and including the carpo-metacarpal joints, involving the tissues toward the thumb and then fading away. The palmar surface was normal. The line of demarkation was very conspicuous and decided by objective and subjective tests. There was entire absence of constitutional symptoms. The pain was described as of a burning or scalding character, as if burned with a hot iron; upon further questioning him I learned that in connection with his regular photographic work he had photographed with Roentgen rays, and had given public exhibitions of the same; in doing which the very part of his hand affected as described was for a considerable time and on numerous occasions exposed to the rays, at a distance of two or three inches from the Crookes' tube. During the time he was exhibiting X rays he would occasionally have his fingers in chemic solutions, especially potassium cyanid, but he was always careful to wash them thoroughly: yet the index finger, which was the most in the solutions, was the most affected and was first attacked around the nail, the process extending up that finger and down the other. Evidently some of the chemicals had been absorbed by the skin and the X rays had driven them into the tissues, thus helping to set up this peculiar form of dermatitis. Another peculiar result of his work was the changing of the color of his mustache from black to a dull brown and its falling out in places, leaving the lip perfectly smooth. Treating the condition on general principles, for the induration, pain and stiffness, I ordered ichthyol and lanolin (1 to 7), to be applied on soft linen or lint. In two days both fingers down to the second joint were blistered. This was apparently caused by the ichthyol, although the continued application of it to the other part of the fingers failed to produce blisters there. Relief from pain and burning was complete after the blisters formed. Following and up to the present time, two weeks after the trouble was manifest, the skin was a dark brown or livid color, much thickened, hard and stiff, with the sense of touch or feeling greatly diminished. All inflammatory symptoms, pain and swelling having subsided, the applications were discontinued. The indications now are that the cuticle will disquamate, and the skin gradually assume its normal condition and appearance."

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SATURDAY, NOVEMBER 7, 1896.

THE AMERICAN PUBLIC HEALTH ASSOCIATION AND AMERICAN BACTERIOLOGISTS.

The sanitarians and public health men on this side of the Atlantic have recently given a decided impetus to bacteriologic work. At the meeting of the American Public Health Association in Montreal, Canada, two years ago, a proposition from its committee on the pollution of water supplies for a coöperative investigation into the bacteriology of water was approved by the Association, and Major CHARLES SMART, U. S. Army, was appointed chairman of a committee to carry the suggestion into practice. It was the intention that the committee when fully formed should consist of all those bacteriologists who were willing to coöperate in the investigation. Letters came promptly from the notable laboratories of the country manifesting interest in the proposition and expressing a desire to participate in the undertaking. Some men of large experience and more than national reputation, whose administrative duties prevented them from participating in laboratory work, heartily agreed to act as an advisory council to the committee in developing its work. This council consisted of Surgeon-General STERNBERG of the Army, Professor WELCH of Johns Hopkins University, VAUGHAN of Michigan, PRUDDEN of New York, and SMITH of the Agricultural Department. An effort was made to settle by correspondence the important subject of the laboratory methods to be adopted in the investigation, but this developed so much variance in the practice of different laboratories that it became needful to call a convention for a thorough discussion of the points at issue. The convention met, but although the members were informed beforehand of the subjects that were to be brought up for settlement, many of these presented so much difficulty that the whole subject was referred to a committee consisting of ADAMI of McGill University, WELCH of Johns Hopkins, ABBOTT of the University of Pennsylvania, SEDGWICK of the Massachusetts Institute of Technology, SMITH of the Agricultural Department, CHEESMAN of New York, FULLER of the Louisville Water Company, and SMART of the Army. This committee met in New York in February last to digest its materials and outline its work. Its report was presented at the meeting of the Public Health Association in Buffalo in September last. It insists upon the importance of uniformity of methods if species are to be grouped correctly. It recommends for future work certain definite tests to be adopted in every case, failing which a description shall be held to be incomplete. It divides the tests applicable for descriptive work into two categories, the necessary and the optional; but these terms are used with some little hesitation, for many of the tests included among the optional are of value for purposes of species differentiation in special cases and might with propriety be included in the first category. The necessary tests are described under the headings: 1, source and habitat; 2, morphology; 3, biology, the last including cultural, biochemic and pathogenic characters. The optional are aggregated under two heads, morphologic and physiologic. The report is not a manual of laboratory methods. It dwells only on those points on which it is felt that there is need for greater uniformity in procedure or a more precise and correct technique. When presented at Buffalo it was incomplete, in so far as it had to be submitted to certain of the members of the committee for final revision. It will no doubt appear in an early issue of the *Journal of the American Public Health Association*. Whether the Water Committee of the Association will be able to carry out its original proposition of a coöperative investigation into the bacteriology of water is doubtful; but if nothing more is done the Association may rest satisfied with its work, in that it has led the bacteriologists to better methods for the identification and differentiation of species.

THE CONTAGIOUSNESS OF TUBERCULOSIS.

The inhumanity of certain tendencies of modern sanitation has been already noticed in the JOURNAL, in connection with a striking instance of attempted legislation against tuberculosis in New Zealand, which it is believed is still pending. One does not, however, have to look as far as to the antipodes to find some evidences of a cowardly zeal for self-protection against disease without regard to the rights or feel-

ings of the unfortunates. It is natural enough for the laity to dread the introduction amongst them of contagious diseases, and precautions are certainly justifiable, but it is another thing for physicians to encourage or even tolerate an increasing fear of disorders the contagion of which is manageable or avoidable by simple and readily available hygienic precautions. When the disorder is one like tuberculosis, that may exist anywhere in a latent form, and to which in times past, and even yet, some exposure has been and is almost inevitable, any excessive and selfish fear is altogether unreasonable.

In a paper read before the American Climatological Association at its late meeting Dr. VINCENT Y. BOWDITCH of Boston made an earnest plea for moderation in our statements regarding the contagiousness of pulmonary consumption, which was especially inspired by reckless and extravagant utterances by medical men as well as laymen in a recent discussion in the daily press. It was stated by a physician, possibly by more than one, that consumption "is as contagious as smallpox," and that "hospitals for consumptives are a source of danger to the whole surrounding community." Dr. BOWDITCH shows that in well regulated hospitals or sanitaria for consumptives contagion is almost unknown, or, at least, that with ordinary cleanliness and care as to the destruction of the sputa, the danger is reduced to a minimum. While the vitality of the bacillus tuberculosis is very great under favoring circumstances, the experiments of RANSOME and DELEPINE have shown that, when dried, an exposure of only a few hours to direct sunlight is fatal to it, a fact that goes far to account for the advantages of climates like that of Colorado and New Mexico in the treatment of this disease. They also find that even a 1 to 10 per cent. solution of chlorinated lime is an efficient disinfectant of clothing and apartments that have been soiled by the sputa, which alone are the sources of the infection. These results have not so far been contradicted, and accepting them as true, some ardent sanitarians will have, in common prudence, to moderate their statements, if not their convictions, on this subject.

The fact is that physicians, like other men, are fallible and subject to go to extremes over any new and striking discoveries in pathology and therapeutics. While there are many who are unduly conservative or backward in taking up and utilizing new facts, there are others who in their enthusiasm go altogether too far, and it is a question sometimes which of these two classes does the most harm. When this human weakness of intemperance in conduct of statement affects matters of sanitary methods and precautions it is likely to add very effectually to the sum of human misery, a result in the production of which certainly no medical man should be desirous of having any part. This question of the sanitary defense against tuberculosis appears, at the present time, the one most open to objectionable possibilities of this nature, and Dr. BOWDITCH's paper seems, therefore, a very timely communication.

DEGENERACY THEORIES OF THE SEVENTEENTH CENTURY.

Physicians who are accustomed to trace the development of the degeneracy hypothesis to NORDAU or LOMBROSO will doubtless be astonished to learn that its essential principles were recognized by the Bohemians who formed the literary class of the time of SHAKESPEARE. THISTLETON DYER ("Folklore of SHAKESPEARE") with a quaint unconsciousness of the coeval teachings of MOREL remarks that "it was an old prejudice, which is not quite extinct, that those who are defective or deformed are marked by nature as prone to mischief." Thus in "King Richard III." Margaret says of Richard, Duke of Gloucester:

> Thou elfish-mark'd, abortive, rooting hog,
> Thou that was sealed in thy nativity,
> The slave of nature and the son of hell.

She called him hog in allusion to his cognizance, which was a boar. A popular expression in SHAKESPEARE's day for a deformed person was a stigmatic. It denoted anyone who had been stigmatized or burnt with iron as an ignominious punishment; and hence was employed to represent a person on whom nature had set a mark of deformity. Thus in "3 Henry VI." Queen Margaret says:

> But thou are neither like thy sire nor dam,
> But like a foul misshapen stigmatic
> Mark'd by the destinies to be avoided,
> As venom toads, or lizards' dreadful stings.

Again in "2 Henry VI." young Clifford says to Richard: "Foul stigmatic, that's more than thou canst tell." In "A Midsummer Night's Dream" mothers' marks and congenital forms are deprecated by Oberon from the issue of happy lovers:

> And the blots of Nature's hand
> Shall not in their issue stand;
> Never mole, hare-lip, nor scar,
> Nor mark prodigious, such as are
> Despised in nativity,
> Shall upon their children be.

Constant allusions are met with in old English writers relating to this subject showing how strong were the feelings of our forefathers on the point. One further instance given by SHAKESPEARE is afforded by the words of King John (iv, 2) with reference to Hubert and his supposed murder of Prince Arthur:

> A fellow by the hand of Nature mark'd,
> Quoted and sign'd to do a deed of shame,
> This murder had not come into my mind.

The significance of stigmata as evidence of defect was recognized even by lawyers of the 17th century. BACON (who as HARVEY says: "Wrote on science like a Lord Chancellor") dogmatically accepts the coexistence of moral and physical defect, but in place of

tracing both to the same cause, hereditary taint, remarks that: "Deformed persons are commonly even with nature, for as nature hath done ill by them, so do they by nature, being void of natural affection, and so they have their revenge on nature." The notion of degeneracy as affecting physical structures was as old as EMPEDOCLES. One quaint use of it was made by SYLVIUS (of Fissure of Sylvius fame) in a criticism of VESALIUS ("From the Greeks to Darwin"). VESALIUS (1514–1564) had brought the charge against GALEN (A.D. 131–200) that his work could not have been founded upon the human body, because he had described an intermaxillary bone. This bone, VESALIUS observed, is found in the lower animals but not in man. SYLVIUS (1614–1672) defended GALEN warmly and argued that the fact that man had no intermaxillary bone at present was no proof that he did not have it in GALEN's time. "It is luxury," he said, "it is sensuality which has gradually deprived us of this bone." This passage proves that the idea of degeneration of structure through disuse as well as the idea of the inheritance of the effects of habit, or the transmission of acquired characters, is a very ancient one. The erroneous conception, that loss of structure was evidence not of advance, but of degeneracy, still mars many of the current researches on degeneracy and has led both LOMBROSO and NORDAU into many blunders.

THE MEDICAL DEPARTMENTS OF THE ARMY AND NAVY.

The Federal Government employs medical men in connection with three of its departments—the War, the Navy and the Treasury. The officers of each are appointed by the President, confirmed by the Senate and hold life positions during good behavior. Pay and status increase with length of service, as promotion is determined by seniority except in the case of the chief of each service, who is selected for office by the President. The scale of pay and the grades of seniority are arranged on the same general plan so that at first sight one might expect competition for appointment to be equally active in all three of the services. An Army Medical Examining Board has just closed a four weeks' session in Washington, D. C., after filling the vacancies in the corps by selecting eight men out of forty-five candidates, who presented themselves for examination out of forty-nine invited to appear. During the past fiscal year three vacancies in the Treasury Department were filled by a competitive examination for which there were sixty-one applicants, thirty-six of whom underwent the ordeal of examination. In the Navy 341 medical graduates made application for appointment, but only thirty-six of these requested permission to appear before the examining board and only twenty-two availed themselves of the permission. Six vacancies were filled from this number leaving ten unfilled at the end of the year. This has been the experience of the Navy for several years past and the Bureau has been so embarrassed by not having a sufficient number of medical officers to fill important positions afloat and ashore that Surgeon General TRYON has recommended the appointment of acting assistant surgeons for temporary duty until the vacancies in the corps have been filled in the regular way. These results show that the services of the Federal Government do not offer equal inducements to young medical men although they are organized apparently on the same general plan.

The passed candidate of the Army Medical Board is commissioned an assistant surgeon with the rank and pay of a first lieutenant of cavalry, $1,600 a year. At the end of five years service he becomes the equal of a captain of cavalry, and then by seniority the higher grades are reached, there being ten lieutenant-colonels, six colonels and one brigadier general to fifty surgeons with the rank of major and 110 assistant surgeons with the rank of lieutenant or captain according as they have served less or more than five years. The proportion of officers of the higher grades is not so large as in some of the other staff corps of the Army, nor indeed as in the Navy Medical Department, but our Army brethern appear satisfied with present conditions as all those who now occupy these higher grades entered the corps at a time when a majorship was the highest rank that could be reached outside of the surgeon generalcy. Ten per cent. is added to the pay proper of the Army officer for every five years of service up to twenty years, so that should there be a delay in his promotion to a higher grade, its financial effects are considerably neutralized; but compulsory retirement of the older officers at 64 years of age makes progressive promotion for the younger men. Quarters are provided for the medical officer and forage for his horses as in the case of other officers of like rank; and the conditions in time of peace are such that his home life may be as unbroken as that of a practitioner in civil life.

In the Navy the personnel consists of a surgeon general or a chief of the bureau with the rank of commodore, the naval equivalent of a brigadier general, fifteen medical directors with the rank of captain or army colonel, fifteen medical inspectors with the rank of commander or lieutenant colonel, fifty surgeons and ninety assistant surgeons. The older officers have no general ground of complaint. They have a high rank, corresponding pay and as most of them have already completed their sea service, their home life is comparatively unbroken; and good quarters are provided for them, when on duty at naval hospitals or navy yards. They are absorbed into the retired list at 62 years of age. But the conditions are not so pleasant for the passed can-

didate of the Naval Medical Board. He is commissioned an assistant surgeon with $1,700 a year, if at sea, and $1,400, if on shore duty, but with the relative rank of an ensign, the naval equivalent of a second lieutenant in the army; and during the three years which he is required to hold this rank, he is thrown into more intimate relations with the warrant officers of his ship than with his superiors in the medical department. When he becomes a passed assistant surgeon, he ceases to draw the 10 per cent. longevity increase of pay, although the corresponding grade of the engineers of the Navy are allowed this increase; and he does not receive the relative rank of lieutenant (equivalent to captain in the army) until all the line officers who antedated his entry into service have reached this rank, nor, when he has been promoted in his own corps to the grade of surgeon does his relative rank become that of lieutenant-commander, the equivalent of the army major, until the line officers aforesaid have been promoted. Of the fifty surgeons now on the Navy list only five have this, their proper rank, while forty-five are held down and have been held down for years waiting for the promotion of officers of the line.

Evidently legislation is needful to remove the obnoxious features of the Naval Medical Service or the high standard of professional qualifications will have to be lowered to permit the vacant positions to be filled. A bill to reorganize the corps should be supported in the next Congress by the whole strength of the medical profession.

DANGERS OF COCAIN.

The recent death of a patient in a physician's operating room from the effects of cocain again calls attention to the dangers attending the use of this drug. Regarding the case in question we have no criticisms to offer, as the circumstances were such that a general anesthetic would apparently have been more dangerous than cocain. While in this instance no blame can be attached to the medical attendant for the untoward result, it at the same time recalls the deadly power of this drug. The number of fatal cases so far reported is happily not many, but those of severe poisoning are quite numerous. The employment of cocain is largely on the increase, it being frequently prescribed by druggists for the relief of toothache and other forms of local pain. It is also used by dentists, and oftentimes in a most reckless manner.

The poisonous properties of cocain seem to be especially pronounced when used in the urethra, nose and mouth. It is less so when employed in operations on the trunk and extremities. This raises the question as to whether the additional danger is due to the facility of absorption from these parts or to the semi-erect position in which most operations on the nose and mouth are most frequently conducted. Solutions of too great strength are often employed; some of them being made extemporaneously by adding a few grains of the drug to an unknown quantity of water. The studies of SCHLEICH have shown that when efficiently used, very weak solutions may suffice for lengthy anesthesia of extensive areas.

We feel at this time that a note of warning is needed regarding the use of cocain. It should never be prescribed or used by any but qualified medical practitioners. When used by them it should be in solutions of known strength, and if for operations, preferably by the intra-cutaneous method of SCHLEICH. The patient at the beginning of an operation in which cocain is used should be placed in a horizontal position, which should be maintained until the effect of the drug wears off.

LEGISLATIVE PREVENTION OF SUICIDE.

The uninterrupted increase of suicides in Great Britain as officially verified for more than forty years, so says the recent three years' report, is again attracting attention. This, the jury verdict of insanity is far from explaining, as in ninety-nine cases out of a hundred the act of self-destruction is the only evidence of unsound mind on the part of the deceased. But this plea in most instances is a fiction of coroners' juries, originally designed to subvert the almost savage treatment of the corpse by the law itself. The disgrace of a cross-road burial with the impaling stake has never attained its object of a warning to the living, and the penalty of imprisonment in case of failure has likewise succeed not a whit better. In the State of New York there are already signs of a reaction in the shape of modifications of the latter law, or for the matter of that, an absolute repeal. The courts themselves affirm that the inevitable second attempt is certain to be effectual. Thus the concession to the feelings of relatives and friends counts for naught.

The strain of an advance civilization with its pessimism and the decrease of the religious sentiment only in part furnish reason for the present tendency toward the old Roman idea that this self-murder was an act of courage rather than a mawkish bid for an often undeserved sympathy. May we not say that psychology rather than pathology can better solve the problem, since there is always present that indefinite something known as a moral twist? It is not enough for us to always beg the question by the dictum that it is a disease; why not rather call it an impulse taking instant form through fear of a certain repentance? Often, too, the means for self-destruction at hand suggest the act, just as much as other surroundings will divert into a contrary direction. We are all aware of the ingenuity of suicides and their patience in the study of expedients for glossing over their crime against posterity under the name of accidental death. Their act is born of egoism, which, by

some is classed as a mental disease and the final doom is at the very least the disgrace of their survivors, which they often seek to mitigate by a homicide or two. At all events no remedy is effectual after death.

THE QUADRENNIAL ELECTION.

The election of Major WM. MCKINLEY to be the President of the United States will set the money machinery of the country in motion, and now that capital need no longer fear to come out of its hiding places we trust that prosperity may come to and abide with every reader of the JOURNAL. We trust that the good work of organization may go on apace and that the members may make renewed efforts to increase the membership. Our JOURNAL has prospered even in the face of the great financial depression which has affected all classes of business. With the business revival sure to come, let us all have confidence, and show it by taking hold of the ASSOCIATION affairs with renewed vigor.

CORRESPONDENCE.

Give Full Names of Authors.

PHILADELPHIA, Oct. 30, 1896.

To the Editor:—Having been engaged lately in a literary work involving considerable consultation of papers and verifying of references I have realized, as any one must under the circumstances, the extra labor necessitated by a practice which has always been more or less general with authors, of mentioning only the surname of writers and investigators referred to. Any one who has had experience can not fail to have been struck with the large number of persons of the same surname who are contributors to medical literature, so that a reference to Dr. Sydenham's or Dr. Jones's views and Dr. Ranklin's papers gives a very imperfect idea of the individuality of the author. Take for example the name Hoffmann. The student will find in the Surgeon-General's Catalogue this surname more than one hundred times, and of these Hoffmanns quite a number are authors of voluminous and important papers. So that to be told that Hoffmann believes thus and so, is of little assistance to the reader who desires to look up his views and papers. Again, to take a name to which modern medical literature often refers—Laveran. At least two Laverans, both French army surgeons, have written papers of importance. The Laveran whose name is so identified with the malariæ plasmodium is A. Laveran,[1] while Louis Laveran is a very different person. Yet writers only quote Laveran. It is needless to multiply instances. They will occur to anyone. My object in asking publicity to this letter is to beg writers to adopt the practice of giving the full name of the authority quoted. This of course involves a little trouble at first to hunt up the Christian name, but as years roll on and we are all thus explicit in indicating the authorities quoted, it will become easier and easier, while the amount of labor saved to those looking up references will be immeasurable. Especially important is it that the editors of the various handbooks and annuals which are now filling such a useful niche in medical literature should adopt the practice of using the full name, for it is from suggestions in such books that writers often want to look up references.

Respectfully yours,

JAMES TYSON, M.D.

[1] Unfortunately, even the Surgeon-General's Catalogue has not the full Christian name.

Serum-therapy.

CHICAGO, Oct. 31, 1896.

To the Editor:—In the last issue of the JOURNAL I find a short letter referring to and criticising Dr. H. Lahmann's article on serum-therapy. As Dr. Lahmann will hardly become acquainted with the contents of this letter, I think it my duty to reply to it in his stead, because it was I who translated his article for the JOURNAL.

In consideration of the fact that every serum-treatment so far employed has proven to be a failure, and considering also that the efficiency of the antitoxin treatment of diphtheria is still either doubted or denied by a great many competent physicians, it seems to be quite a bold undertaking by any advocate of the serum-therapy to call a physician whose therapeutic views differ from his, a quack.

In concluding his letter Dr. K. says: "We should be on our guard, having enough of the sort in the country." I would like to call his attention to the fact that there is another thing in this country and in the world, which we ought to guard against still more, and that is the abuse done with the drug treatment. If we step behind the prescription counter of a drug-store and look over the prescriptions, we will have a most elegant opportunity of studying a legitimate quackery which has done and is doing more harm to the sick than any "old-fashioned" treatment ever did or ever will do.

Very truly yours, CARL STRUEH, M.D.

PUBLIC HEALTH.

Diphtheria in Illinois.—Six cases had occurred at Newman, up to the 24th ult., with four deaths. In addition to the reports from West Hammond and Newman, diphtheria has been reported as existing within the week ending October 24 at the following places in the State: Flora, Sidell, Clinton, Sparta, Jacksonville, Springfield, Auburn, Virden, Chrisman, Galesburg, Orange Township (Knox Co.), and Melrose, near Astoria. The reports do not indicate that the disease prevailed extensively at any points, but an unusually large fatality is reported in proportion to the number of cases.

Water-Supply at East London.—The vestry of Hackney, London, has been endeavoring to supplement the scant water-supply of its poorer dependent population by a house-to-house distribution of water amounting to 100,000 gallons weekly since the first of August. It has also supplied a number of storage jars, not less than 1,500 of them, to families having no other means of storing water. A subcommittee of the vestry has been in session every day, Sundays inclusive, all through the vacation period.

Diphtheria in Indiana.—Diphtheria is reported as epidemic in several counties in Indiana. The southern part of the State has sent in the greater number of complaints. The story is generally the same from all points. The first case is pronounced tonsillitis by the attending physician, consequently no quarantine is established, and so the disease becomes epidemic. In more than one place the people discovered that physicians had carried the disease, and demanded protection from the State Board of Health. Although the State Board has miserable financial support still it manages to furnish culture outfits for diphtheria diagnosis and make microscopic examination without charge. Recently at Columbus, a practitioner furnished a householder a written certificate to the effect that, "no contagious or infectious disease existed at house of————," despite the fact that cultures proved the reported tonsillitis to be true diphtheria. To prevent the carrying of contagion by doctors the State Board of Health has passed rules directing specifically how they shall protect themselves when knowingly visiting contagious and infectious diseases.

Payment of Kentucky State Board of Health Bills.—Although it is provided by section 2053 of the Kentucky Statutes that the necessary printing of the State board of health shall be done in the same way and upon the same conditions, as other public printing is done, the court of appeals of the State says that it does not necessarily or properly follow that the cost thereof was intended by the legislature to be paid to contractors for State printing out of the general fund. On the contrary, it thinks it plain that it should be paid out of the fund provided by section 2054, which appropriates $2,500 per annum, or so much thereof as may be deemed necessary by the State board of health, to pay the salary of the secretary, meet contingent expenses of the office of secretary, and the expenses of the board, "which shall not exceed the sum hereby appropriated." The court goes on to say, State Board of Health v. Stone, Auditor, decided Sept. 24, 1896, that although the State board of health is an institution invested with considerable responsibility, and undertakes to perform duties deemed essential to the general health and physical well-being of citizens of the State, the position of its members is one rather of professional distinction than pecuniary gain, and hence the only officer connected with it entitled, under the statute, to compensation for services rendered, is the secretary, whose salary, though fixed by the board, can not exceed $1,200. The residue of the appropriation, as above $1,300, must cover all the expenses stated, including all legitimate cost of printing.

The Etiology of Hereditary Stigmata.—In the *State Hospitals Bulletin*, July-September, Dr. Frederick Peterson of New York city, contributes a very instructive article on the physical stigmata of degeneracy. He closes his paper as follows:

A few words should be said concerning the etiology of the stigmata of degeneration. When we come to investigate the causes which lead to their formation we meet with much difficulty. Usually we must look to modifications occurring during fetal development, during the evolution of the child, modifications brought about by arrest or errors of development, not so much perhaps in the organs themselves (which show the effects) as in the central nervous system, in the nervous mechanism which governs heredity. As the evolution of our bodies as well as our minds depends upon the brain and spinal cord and the countless nerve filaments which radiate from them to every tissue, so the nervous system plays the most important part in the influences which have to do with heredity. The nervous coördination must be rearranged by strong stimuli in order to reproduce the hereditary impulse. This is why traits acquired by us in our individual lifetime are not apt to be inherited by our descendants. If a person loses an arm his children are not deprived of that useful member, for the nervous mechanism of development which has for ages produced arms in their proper places and which is fixed in the powerful hereditary impulse of the race has not been changed. So in the breed of dogs whose tails have been cut off for countless generations, not one is born without a tail, because the nervous coördinations governing the evolution of the tail bear down with all the hereditary force of the race since its first beginning (when the tail existed though the animal was legless) to keep it in existence. If in some way we could reach the nervous mechanism which is responsible for the evolution of the tail, we might modify or even prevent its development. It is therefore some derangement of the nervous mechanism governing heredity which brings about deviations from the normal type, which gives rise to anatomic, physiologic and psychic anomalies which we designate as the stigmata of degeneration. How is the nervous mechanism of heredity deranged? It may be readily and profoundly deranged in a variety of ways, for instance by poisons. Thus alcohol disarranges the nervous mechanism of heredity in such a way that the descendants may suffer from the drink-craving, from idiocy, insanity, epilepsy, hysteria, neurasthenia, from shattered nervous systems, for at least three generations, and in these unfortunates we find along with marked functional stigmata of degeneration, these actual physical deviations from the normal type which we call anatomic stigmata. But idiocy, insanity, epilepsy and the like are in themselves conditions which disarrange the nervous coördinations so profoundly as to effect the hereditary impulse and give rise to anatomic and functional stigmata in the descendants. What is bequeathed to the degenerate child is a fragile and unstable nervous constitution. The evidence of this inherited fragility of the nerve-mechanism may present itself as insanity, or it may be epilepsy, or it may be feeble-mindedness, or it may be criminal tendencies, or it may be simple nervousness or hysteria or certain kinds of headache or possibly only eccentricity. All of these disorders are more or less interchangeable and are merely proofs of an unstable nervous organization. Where such conditions do not develop they may exist in a latent state and pass as a legacy to another generation. Whether the neuropathic state be manifest or latent, we are apt to find anatomic stigmata of degeneration present on careful examination.

Health Report.—The following reports of mortality from smallpox, cholera and yellow fever have been received in the office of the Marine Hospital Bureau of the Treasury Department:

SMALLPOX—FOREIGN.

Bombay, India, September 22 to 29, 2 deaths.
Gibraltar, October 4 to 11, 1 case.
Hiogo, Japan, September 19 to October 3, 170 cases, 63 deaths.
Licata, Italy, October 3 to 10, 3 deaths.
Madras, India, October 7 to 14, 70 deaths.
Manzanillo, Cuba, October 1 to 15, 2 deaths.
Moscow, Russia, September 26 to October 3, 1 case, 1 death; October 3 to 10, 1 case, 1 death.
Nogales, Mexico, October 17 to 24, 4 cases.
Odessa, Russia, October 3 to 10, 12 cases, 5 deaths.
Paris, France, September 26 to October 3, 1 case.
Rio Grande do Sul, August 22 to September 19, 74 cases, 7 deaths.
St. Petersburg, Russia, October 3 to 10, 5 cases, 4 deaths.
Tuxpan, Mexico, October 3 to 10, 2 deaths.
Warsaw, Russia, September 26 to October 3, 5 deaths.
Vera Cruz, Mexico, October 15 to 22, 1 death.

CHOLERA.

Bombay, India, September 22 to 29, 3 deaths.
Calcutta, India, September 12 to 19, 4 deaths.
Hiogo, Japan, September 19 to October 3, 9 cases, 1 death.
Hong Kong, China, September 12 to 19, 2 deaths.
Madras, India, September 19 to 26, 7 deaths.
Yokohama, Japan, September 26 to October 2, 1 case, 1 death.
Cairo, Egypt, September 15 to 21, 28 cases, 9 deaths.
Throughout Egypt to date, September 25, there were 21,565 cases and 17,990 cholera deaths.

YELLOW FEVER.

Matanzas, Cuba, October 7 to 21, 27 deaths.
Santiago, Cuba, October 17 to 24, 12 deaths.
Cardenas, Cuba, October 10 to 17, 4 deaths.
Quantanamo, Cuba, September 1 to 30, 6 deaths.
Cienfugos, Cuba, October 11 to 18, 17 cases, 4 deaths.
Havana, Cuba, September 15, to 22, 145 cases, 55 deaths.
Guadeloupe, W. I., October 1 to 4, 3 cases, 2 deaths.

NECROLOGY.

E. W. WOOD, M.D., of Northboro, Mass., died suddenly September 6, aged 56 years. He was born in Middleboro in April, 1840. He taught school in his earlier life, beside studying medicine. He enlisted for nine months in Co. C, 4th regiment, Massachusetts volunteers, and was appointed assistant surgeon under Gen. Banks.

HERMAN HARDRICH, M.D., of Brooklyn died October 4, aged 42 years. He was of German parentage, born in New York city. He graduated in medicine from the New York University Medical Departent in 1876. His professional life was spent in Brooklyn, but during the past fifteen years he had been maimed or disabled by spinal and other complications. His final illness was ascribed to pulmonary tuberculosis, ending with a convulsive seizure.

GEORGE B. O'SULLIVAN, M.D., of Brooklyn, died October 11, aged 30 years. He was a native of that city and a graduate of the Long Island College Hospital about ten years ago. He served as interne in St. Mary's General Hospital in 1888 and a term in St. Mary's Maternity Hospital. After completing his service in the latter institution, he opened an office and in a short time built up a large and remunerative practice. During the past winter he had an attack of pneumonia. Although

this was severe, his convalescence did not progress satisfactorily, and pulmonary tuberculosis supervened. At this time he was strongly advised to leave Brooklyn and settle in the Northwest, but this he was unable, for family reasons, to do. In May last, he reluctantly agreed to take a vacation and decided to spend it in the Adirondacks. The climate of this section did not appear to benefit him, and his stay there was brief. The midsummer was spent at New Suffolk, L. I. There he seemed to experience some improvement. In the latter part of August he returned to the city and resumed his practice, but his strength was, however, not equal to the task and he was obliged to gradually give up his business, until toward the last he was confined to his home. In his death was ended the career of a man of great promise, a career that had always been upright, honorable and useful.

A. C. McLellan, M.D., a native of Prince Edward Island and graduate of McGill University, Montreal, and the Royal College of Surgeons, Edinburgh, died at Gloucester, Mass., October 17. He was 35 years of age.——B. H. Whaley, M.D., of Whaleysville, Md., October 9, aged 29.——P. S. Carden, M.D., of Richmond, Va., October 11, aged 60.——R. C. Walker, M.D., of Mobile, Ala., October 11, aged 59.——John Springs Baxter, M.D., of Macon, Ga., October 12. He was born in Macon in 1832 and was graduated from the University of Georgia in 1853. He received his medical degree from the Jefferson Medical College in 1856 and returned to Macon to begin the practice of medicine. He enlisted in the war with the Macon Volunteers in 1861 and was made surgeon of the battalion in 1862. Later he was assistant surgeon at Richmond to the Third Georgia Hospital, then became surgeon of the Forty-sixth Georgia regiment in the field until the surrender. After the war he resumed practice in Macon for about a year and then went into the general merchandise business under the firm name of Jones & Baxter. Retiring from business in 1873, in 1876 he became director in the Southwestern Railroad and in 1891 became its president, which position he was holding at the time of his death.——Richard Beebe, M.D., of Alford, Mass., October 20, aged 72. He was graduated from the Pittsfield Medical College.——M. H. Raymond, M.D., of Grass Lake, Mich., October 21, aged 60. He was graduated from the University of Michigan in 1852.——Walter P. Brown, M.D., of Lexington, Mich., October 18, aged 43.

SOCIETY NEWS.

Second Pan-American Medical Congress.—President Diaz will receive the Congress on the 19th inst., and the municipality of the City of Mexico will tender a reception on the 17th inst. Dr. H. L. E. Johnson, chairman transportation committee, has authorized the Baltimore & Ohio road to communicate in his name with persons north and east desiring to attend the Congress and make arrangements over that road connecting with the special train of the American Tourist Association at Cincinnati. Dr. Liston H. Montgomery has arranged a special over the Laredo, Texas and Mexican National Railroad, at a cost of about $150. Stop-over privileges will be allowed, and the trip will occupy about three weeks. The price includes hotel accommodations.

List of Honorary Presidents and Secretaries for Canada:—Drs. James Stewart, Montreal; H. P. Wright, Ottawa; John Caven, Toronto; L. D. Mignault, Montreal; Morehouse, London, Ont.; J. L. Davidson, Toronto; Sir Wm. H. Hingston, Montreal; Cassidy, Toronto; Edward Farrell, Halifax; J. A. S. Brunelle, Montreal; T. J. Roddick, Montreal; Surg. Major Strange, Colin Sewell, Quebec; W. Gardner, Montreal; F. W. Ross, Toronto; Adam Wright, Toronto; Grondin, Quebec; A. B. MacCallum, Toronto; Wesley Mills, Montreal; J. B. A. Lamarche, Montreal; Sheard, Toronto; J. C. Cameron, Montreal; Blackader, Montreal; Burnham, Toronto; Buller, Montreal; Kirkpatrick, Halifax; A. A. Foucher, Montreal; Chrétien-Zaugg, Montreal; Stephen Dodge, Halifax; Birkett, Montreal; J. C. Cornil, Toronto; D. Marcil, St. Eustache, P. Q.; J. E. Graham, Toronto; A. A. Browne, Montreal; E. P. Benoit, Montreal; F. Montizambert, Quebec; W. Bayard, St. John, N. B.; P. H. Bryce, Toronto; James Patterson, Winnipeg; Davie, Victoria, B. C.; A. Vallée, Quebec; Workman, Toronto; Stephen Lett, Guelph, Ont.; Burgess, Montreal; McAvinny, St. John, N. B.; Beers, Montreal; Wilmot, Toronto; Shepherd, Montreal; C. E. Lemieux, Quebec; Geikie, Toronto; Adami, Montreal; A. P. Reid, Halifax; A. R. L. Marsolais, Montreal; Arthur Lemieux, Dentist, Montreal; Luke Lesky, Dentist, Toronto.

The Medical Society of the District of Columbia.—The following circular has been issued by this Society:

Sir:—I have the honor of transmitting to you the following preamble and resolutions adopted by the Medical Society, and to request that the action suggested therein be taken, and that the Society be duly informed of the appointment of a representative as provided for by the resolutions:

Whereas, There is now pending in both Houses of the Congress of the United States, a bill, entitled, "A bill for the further prevention of cruelty to animals in the District of Columbia," which avowedly contemplates the supervision and restriction of vivisection in this District; and

Whereas, It is believed that such proposed legislation will so obstruct and limit experimental research as may seriously interrupt the pursuit and progress of biologic and medical research in this District, therefore be it

Resolved, That the Medical Society of the District of Columbia hereby invites the bureaus, departments, schools of medicine and scientific societies hereafter named, to unite with it in the organization of a commission to be constituted of one representative from each of such bureaus, departments, schools of medicine and scientific societies, which shall be known as the "Joint Commission on Vivisection," charged with the duty of investigation relating to the practice of animal experimentation in this District, and representation of the consituent organizations before Congress, in such manner as said commission may determine.

Resolved Secondly, That this invitation be extended to the Bureaus of Medicine and Surgery of the Army, Navy, Marine Hospital Service, Animal Industry, the Medical Departments of the Columbian, Georgetown, Howard and National Universities and to the Chemical, Biological, Anthropological, Entomological and Philosophical Societies of the District of Columbia.

Resolved Thirdly, That the expenses of the Joint Commission shall be defrayed in equal proportion by each bureau, department, school and society represented in said Joint Commission.

Resolved Fourthly, That the corresponding secretary be requested to transmit a copy of the foregoing preamble and resolutions to each of the bureaus, departments, schools and societies named, and request their concurrence, and the name and address of their representatives. Very respectfully,

[Signed] Thomas C. Smith, M.D., Cor. Sec'y.

BOOK NOTICES.

Modern Greek Mastery; A Short Road to Ancient Greek. By Thomas L. Stedman, A.M., M.D. New York: Harper & Bros. 1896.

This is an attempt to bring the English speaking medical man face to face with the new Greek, but he might as well know once for all that he can not learn any foreign language without study. Such books as the one under consideration are valuable, but they can not take the place of the tutor by the colloquial method. Dr. Stedman says: "In these days of international congresses a pressing need is felt for some common medium of expression, for few men are such masters of the three languages in which discussions are usually held at these gatherings to enable them to take an intelligent part in all the deliberations. English, French and German have each in turn been proposed as the international language, but national jealousies would appear to offer insuperable obstacles to the adoption of any one of them to the exclusion of the other two. The only solution of the difficulty seems to lie in the selection of some other language which could be univer-

sally accepted without wound to the national pride of any European people. Many men from Voltaire to Blackie, and others of the present day, have urged the adoption of Greek for this purpose, and of all living tongues none has stronger claims in this regard. Its adaptability to the needs of international communication is shown by the fact that it is now the language of commerce throughout the Levant, as it was before and at the beginning of the Christian era, the common tongue of men of letters and of polite society in the civilized world." The author makes a good point in advocating the study of modern Greek by saying that to learn Greek by the study of the ancient classics, such as Homer and Xenophon, is like it would be to undertake the study of the English language by carefully reading Chaucer and Spenser. The one who will master this book may be said to have accomplished the mastery of the language which it teaches.

A Text-book of Diseases of the Nose and Throat. By FRANCKE HUNTINGTON BOSWORTH. New York: William Wood & Co. 1896.

The present edition of some eight hundred pages is a condensation of his former voluminous treatise.

This excellent work has lost none of its practical value by covering the same ground with half the reading text of the former editions. The pruning process has been rather of words than ideas, and its value as a text-book for students and practitioners has been greatly enhanced. Bosworth's work is unquestionably the most complete text-book on the subject as yet given to the profession by an American author, and may well be considered to rank with Morell Mackenzie's classic on the same subject.

Manuale di Materia Medica. Del Dottore GAETANO MALACRIDO. Ulrico Hoepli, Milano, 1896.

L'Impiego Ipodermico e la Dosatura dei Rimedi. Del Dottore GAETANO MALACRIDO. Ulrico Hoepli, Milano, 1895.

Manuale Pratico della Medicatura. Del Dottore ADELCHI ZAMBLER, con Prefazione del Prof. E. TRICOMI, con 6 incisioni. Ulrico Hoepli, Milano, 1896.

These three publications of the Hoepli series give very fair and apparently very complete statements of the present state of our knowledge of their respective subjects, and a very handy form for those acquainted with the language. The treatise on materia medica is especially full and complete for a pocket manual; so far as known we have nothing in English that approaches it in this respect; some even of the less known drugs are more fully mentioned than in the U. S. Dispensatory. It would be an excellent work of reference for any physician and the language being an easy one to acquire, would not be, by any means, a serious objection.

The volumes make no special pretense at being other than handy manuals, and for this they seem eminently suited. Our Italian confrères appear to be well provided for in this regard.

The Medical and Surgical Uses of Electricity. By A. D. ROCKWELL, A.M., M.D. Illustrated with 200 engravings; new edition. New York: Wm. Wood & Co. 1896.

This work is practically the ninth edition of Baird and Rockwell's well-known treatise on the medical and surgical uses of electricity, but Dr. Baird has long since been dead, and has no connection with any of the revisions since the second. Baird and Rockwell has so long been the standard work on electrotherapeutics that any additional commentation of it is a superfluity. It is sufficient therefore to say that the present edition has been brought down to date, even including a chapter on the Roentgen ray. Among the new features for the book we notice an illustration of Girdner's telephone bullet probe with the method of using it, and the Cleaves' electrode for vaginal hydro-electric applications, and various skiagraphs illustrative of the Roentgen photography in diagnosis. It is evident that Dr. Rockwell intends that his book shall be a standard on the subject for a long time as it has been conscientiously revised.

A Practical Treatise on Medical Diagnosis. For the use of students and practitioners. By JOHN H. MUSSER, M.D., Assistant Professor of Clinical Medicine, University of Pennsylvania, Philadelphia. New (2d) edition, thoroughly revised. In one octavo volume of 925 pages, with 177 engravings and 11 full-page colored plates. Cloth, $5; leather, $6. Philadelphia and New York: Lea Brothers & Co. 1896.

The new edition of this work embodies the latest improved advances, newly established facts and methods in this branch of practical medicine. There are many new engravings and colored plates. We can repeat the favorable mention we gave the first edition of this work, and can only say that the new one will be found even more valuable. We notice with pleasure that in the directions for bacteriologic diagnosis the metric system of weights and measures is used throughout the volume. The colored plates of bacteria are accurate and comprehensive. All classes of practitioners, general and special, are aware of the fact that they can not have too many good books on diagnosis. In this class Musser's book fairly belongs. A full index adds to the value of the book.

A Practical Treatise on Materia Medica and Therapeutics.—By ROBERTS BARTHOLOW, M.A., M.D., LL.D. Ninth edition, revised and enlarged. New York: D. Appleton & Co. 1896.

The ninth edition of Bartholow's therapeutics has been enlarged, so that it now forms a volume of 866 pages. The additions and alterations which have been made as a rule relate to the accounts, more or less full, of the synthetic remedies from organic chemistry, many of which are patented, but are the property of the manufacturing chemists. The general character of the work is unchanged, and it continues to be, as heretofore, a standard work on therapeutics. We regret, however, that the author has not revised the system of weights and measures to correspond to the new Pharmacopeia or advanced position of chemic and pharmaceutic science. The old British weights and measures is still employed throughout the book. This detracts very much from its value. We hope to see it corrected in future editions. This has been done in the chapter on Topical Remedies, Part III of the book, which is free from criticism in that respect. Centigrade thermometer is also used in this portion of the work. Where the formula of the U. S. Pharmacopeia is given, however, it is impossible for the author to avoid using metric terms, and it looks curious to see a metric term used in the preparation of the drug, while the dosage is always given in the old fashioned weights. With this exception, the new revision stands the test of comparison with other works on this subject. It will, we trust, continue to be a favorite for many a year, and the defects which we have pointed out are so easily corrected that we hope the tenth edition will be free from them.

Biennial Report of the Board of Health of the General Assembly of the State of Louisiana for 1894-95. By S. R. OLLIPHANT, M.D., President, Baton Rouge, 1896.

This report contains the most important features of the work of the Board of Health of the State of Louisiana for the years 1894 and 1895. It is of considerable interest in many particulars. Among them is the report of a conference of quarantine authorities of the Gulf with a view to securing uniformity of regulations, governing the fruit trade during the summer, and it was agreed that the representatives should maintain a medical inspection service in certain foreign ports. The committee of the conference consisted of Drs. Patton, Cochran and Hargiss, who recommended a modification of the quarantine laws and regulations of the United States, promulgated by the Secretary of the Treasury, April 4, 1893. On account of a disagreement between the Board of Health of New Orleans and the Marine Hospital Service, it is stated by Dr. Olliphant, page 24, as Secretary, that "in January, 1894, the local representative of the Marine-Hospital Service especially informed this board of his instructions to make monthly inspections of our quarantine stations. The feeling engendered

on part of this board by this attempted *officious* supervision is fully set forth in a letter authorized by the board." A letter addressed to the Secretary of the Treasury follows.

Dr. Olliphant adds: "Despite our protest, the formality of visiting our stations monthly is regularly indulged in by the Surgeon in charge of the United States Marine-Hospital in this city. By the absence of complaint from the Supervising Surgeon-General at Washington, I infer the reports of our practices and methods have proven satisfactory." Again on page 27, Dr. Olliphant states that a subordinate of the Board of Health was requested to furnish a certificate of pratique by the Marine-Hospital Service instead of by the Board. This statement follows, and the report continues, page 29: "The President and Attorney of this Board proceeded at once to Washington and through the courtesy of our Senators and Representatives were introduced to the Secretary of the Treasury. This official was not aware that any change in the regulations of the proceedings had been inaugurated. We then repaired to the office of the Supervising Surgeon-General of the United States Marine-Hospital and discussed with him the justice of our claims, and while he did us the courtesy to promise to give the matter serious consideration, he obstinately refused to recommend to the Secretary of the Treasury to suspend this order till his decision was rendered. On our departure from Washington we were assured by the Secretary of the Treasury that our claim appeared to be well founded and would receive due consideration."

On August 16, the regulations of the Louisiana Board were finally acceded to, and the report continues: "It is to be hoped the United States Marine-Hospital Service will desist from further interference with the quarantine affairs of the State of Louisiana. When that service is prepared to demonstrate the superiority of its regulations and methods, I feel confident that this Board of Health will most gladly adopt them. Till then let us progress and not retrograde."

Full accounts are given of the smallpox epidemic of 1894, and the report concludes with the usual statistic tables and a republication of the laws of the State and ordinances of the city of New Orleans in relation to health and sanitation. The report is, therefore, not only valuable from the standpoint of history but as a book of reference for those interested in the sanitary legislation of Louisiana.

The Bausch and Lomb Optical Company of Rochester, N.Y., have issued a catalogue of unusual merit concerning microscopes, microtomes, photographic and laboratory apparatus. The descriptions of the instruments are clear and complete.

MISCELLANY.

Prof. Klebs' Article on "Tuberculosis" translated into Italian.—The article by Professor Klebs on Tuberculosis, which was published in the JOURNAL, No. 4, Vol. 27, has been translated into Italian and appears in full in the *Gazetta Degli Ospedali e Delle Cliniche*, September 15.

"Omnibus Physicians."—The *Nouvelles du Jour* announces that at Olloy, near Mariembourg, a physician has been appointed by the authorities to take charge of all the sick in the community and attend them gratuitously, for which he receives a certain salary and all expenses paid.—*Gaz. M. de Liège*, September 10.

Operation for Atresia Vaginæ.—Mackenrodt (*Centralbl. f. Gyn.*, No. 21, 1896) points out that attempts to keep the artificial vagina open by tampons after operations for this condition are seldom permanently, if even temporarily, successful, and states that he has recently in two cases successfully substituted a vaginal wall by transplantation of flaps obtained in operations for prolapse on otherwise healthy women. The new canal is prepared and plugged with iodoform gauze till its inner surface is covered with healthy granulations, and is then lined either by several single flaps which are kept in position by a tampon, or a lining is formed by sewing a number of flaps together around a Cusco speculum and introduced with its wounded surface external into the granulating canal, and fixed by a tampon, which in either case is not removed for eight or ten days.—*St. Louis Med. Journal*, October.

To Remove a Foreign Body from the Nose, Urethra, etc.—Beugnies describes a simple arrangement with which he removes foreign bodies from small passages. A hole is bored in the end of a probe and a thread fastened in it. This is then introduced into the passage and carefully pushed past the foreign body. The string then held in one hand and the probe in the other, the little whip thus forms a loop with which the foreign body is easily withdrawn.—*Gaz. Méd. de Liège*, September 10.

Newly Appointed Army Medical Officers.—The Army Medical Examining Board, which has been in session during the last four weeks in Washington, D. C., completed its work on Saturday, October 24, by recommending the appointment of eight of the candidates, in order of merit as follows: Basil H. Dutcher of New York, Leigh A. Fuller of New Jersey, Franklin M. Kemp of New York, George A. Skinner of Minnesota, Carl R. Darnall of Texas, Wm. E. Richards of Mississippi, Louis P. Smith of the District of Columbia, Marshall M. Cloud of Kansas.

The Disinfection of Books by Vapor of Formalin.—An experiment has recently been made by a medical authority in the disinfecting powers of the vapor of formalin on library books. His conclusions are as follows: 1. Books can be disinfected in a closed space, simply by vapor of commercial formalin, by using 1 c.c. of formalin to 300 c.c. or less of air. 2. The vapor of formalin is rapid in its disinfectant action. The effect produced in the first fifteen minutes is practically equivalent to that observed after twenty-four hours. 3. An increase in the amount of air to each c.c. of formalin is not counterbalanced by an increase in the length of time of exposure. 4. In case the disinfection has been incomplete, the vitality of the organisms has been so weakened that they survive only if transferred in a few hours to media suitable for their development. 5. The use of the vapor of formalin is not detrimental, as far as observed, in any manner to the books, nor is it objectionable to the operator beyond a temporary irritation of the nose and eyes somewhat similar to that produced by ammonia.—*Health*, October 17.

Change of Name.—The editors of *Mathews' Medical Quarterly* announce that with the January issue of that publication its name will be changed to *Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases*. This is a change which has been deemed necessary for some time, as it is essential that the title of a medical journal should convey to the reader an idea of its contents, and this has not been the case with its name from the beginning. There will be no change in the policy of the journal in the least. As it will continue to be the only English publication devoted to diseases and surgery of the rectum and gastro-intestinal tract, the articles which will appear in it will be limited to these subjects. The journal will continue to be edited by Drs. J. M. Mathews and Henry E. Tuley, and published in Louisville, Ky.

Operative Treatment of Partial Epilepsy.—In the *Deutsche Medicinische Wochenschrift* for August 27, Sachs and Gerster of New York give the results of operation in nineteen cases, and arrive at the following conclusions: 1. Those cases of partial epilepsy are suitable for operation in which at most one to three years have elapsed since the trauma or onset of the disease. 2. In depression of the skull or in other injuries to the skull, operative interference is indicated even in after years. The prognosis, however, is less good the longer the elapsed time since the original injury. 3. Simple trephining may suffice in

many cases; this is especially true if one is concerned with skull injury or with cyst formation. 4. Excision of the cortical lesion is advisable, if the epilepsy is of short duration and referable to an exactly localizable portion of the brain. 5. Since such lesions are often only visible microscopically, excision should be undertaken even if the diseased part macroscopically appears normal. Still one should, however, use the greatest caution, in order that the proper portion be excised. 6. Surgical interference in epilepsy occurring in connection with infantile cerebral paralysis is permissible, if it occurs not too long after the onset of the paralysis. 7. In old cases of partial epilepsy, in which very probably an extended degeneration of association fibers has taken place, surgical interference is entirely useless. — *Boston Medical and Surgical Journal.*

The Healing Craft Defended.—The New York *Sun* has had upon its editorial staff for some years a writer whose sympathetic and intelligent remarks upon medical affairs have been much quoted in our journals, as showing that the profession is not absolutely friendless in the daily press. The following short paragraph was elicited by a New York city event that occurred in the heated term of last August: "Mrs. S. B. died of the heat last night, while her husband was trying to get a doctor. The medical man whom he succeeded in finding refused to attend the patient because the husband was unable to pay his fee. It is seldom that a doctor violates the oath of Hippocrates, by which he binds himself before he takes up the work of his profession. That famous formula defines the duties of the physician to his master, his pupils, the sick and himself. With reference to the third of these the doctor promises to treat the suffering as a father cares for his children. He calls down upon himself all evil if he fails in this solemn duty. He prays that he may be accursed. The conduct of this medical man was in direct violation of the solemn obligation. But a case of this sort is only the exception that proves the rule. *In no calling in life is there as much self-sacrifice willingly suffered for the good of humanity as in that of the healing craft.* It is, therefore, all the greater shame that any one man should forget the traditions of a noble profession."

The Late John Eric Erichsen.—Sir John Eric Erichsen, who has been called the brightest literary exponent of English surgery in his generation, as heretofore announced departed this life September 23, after a somewhat sudden illness. He had been in fair health and in a hopeful mood until about one week before his death. Mr. Malcolm Morris, editor of the *Practitioner*, has lately written briefly of Erichsen's position among his confrères: "Sir John represents all that is best in the traditions of English surgery which, as Bilroth says, has since the days of John Hunter had 'about it something noble.' His career has a special interest for me, as in his early professional life he devoted a considerable amount of attention to skin diseases, on which he wrote a book which may even at this day be read with profit. Thirty years ago Sir John Erichsen's operations at University College Hospital were among the surgical sights of London, which students from other schools and visitors from foreign countries flocked to see. Yet on his first appointment he had had difficulties to contend with, which might have dismayed a weaker man. The medical student of 'the forties' was an animal *feræ naturæ*, as different from the decorous and examination-ridden youth of the present generation as Squire Western from the country gentleman of to-day. I have been told that at Mr. Erichsen's first operation in the hospital theater one of the students expressed his disapproval by throwing a ball at his head; the missile reached its mark, but without disturbing the self-possession of the operator. This little morning mist of unpopularity, however, speedily melted away before the splendid qualities of the man. It is an interesting fact that Sir John Erichsen's first house surgeon was Sir Joseph Lister; the same post was afterward held by Sir Henry Thompson. His pupils, however, are not to be counted merely by the number of those who were privileged to hear the living voice of the master; his great work has for more than forty years been turned over with nightly and daily hand by students, and constantly referred to for counsel by surgeons wherever the English tongue has currency."

Bacteriuria Treated by Internal Drug Administration.—The London *Lancet*, September 12, refers to a paper in the recently issued fourth volume of the Edinburgh Hospital Reports, by Dr. Lowell Gulland, on this subject. Organisms, he says, may make their way into the normally aseptic parts of the urinary apparatus in four different ways: 1, by spontaneous growth from the urethra into the bladder; 2, by instrumental introduction; 3, by the bursting of an abscess into the urinary tract, *e.g.*, from parametritis or appendicitis; 4, by transmission through unbroken tissue from elsewhere, *e.g.*, the rectum, and 5, by passage through the kidney from the blood. Only a few organisms have been proved to appear in the urine in this way. Although the urine forms an almost ideal culture medium no organism will remain in permanent possession of the urinary tract unless it is pathogenic or unless there is retention of urine. Any organism will probably cause a certain amount of damage to the mucous membrane, and its primary development will thus be favored; but as the epithelium recovers, the rate of removal of the organism will exceed the rate of growth and the organism will at last be eliminated. Cystitis is by far the most common inflammation of the urinary tract. The ammoniacal fermentation of the urine, formerly thought to be invariable in cystitis, is only occasionally present, and, as a matter of fact, the urine in cystitis is frequently acid. In reference to treatment, when the acute symptoms of the attack have subsided and the mucous membrane has recovered to a certain extent, there is still over the whole or part of its surface a layer of adhesive muco-pus swarming with organisms. In this condition washing out of the bladder is often most efficacious, but in certain cases it is inadmissible, and recourse must then be had to administration of remedies by the mouth. Drugs to render the urine acid if it is alkaline, are useful. Various germicidal remedies have also been recommended, but all of them Dr. Gulland shows, are excreted in a form in which their germicide value is small. He suggests, however, that although they do not destroy the vitality of the organisms they may have an effect upon their virulence either by preventing the secretion of their toxic products or by neutralizing these when formed. Such a view is extremely difficult to put to the test of experiment.

Mania Following Orchotomy; Successful Treatment with Testiculin.—Dr. A. T. Cabot of Boston, in the *Annals of Surgery* for September, narrates a rare case of the above description in a well-preserved patient of 75. In the course of a crushing operation for stone, the surgeon removed both testes; upon recovery from anesthetic the patient began to manifest a confusional mental disturbance with exacerbations of mild mania. Previous to the operation he had been mentally clear for the most part, although not free from occasional confusion of ideas. The wound healed kindly and the prostate became so much reduced in size that about one month after the operation the patient passed some urine voluntarily. Testiculin was then tried as a remedy for the persistent mental confusion. The improvement under this treatment was prompt, and the man left the hospital about ninety days after the operation. The treatment by injection was kept up about two weeks, when it was discontinued on account of the pain. This is probably the first recorded case in which testicular extracts have been used in such a case as this, but the immediate improvement which followed confirms the belief that the loss of the testicles had something to do with the mania, and suggests the importance

of a further trial of these extracts in similar cases. Care was taken that neither the patient nor the friends should have any idea of what was being given or what results were expected, so that the possible effect of suggestion should be reduced to a minimum. This would seem to be a necessary precaution in any similar trial; for suggestion is a powerful therapeutic agent in such functional nervous disorders. Beside these immediate and psychic disturbances, there are other cases in which the operation has a very decided depressing effect on the general strength of the patient, leading to an amount of shock quite out of proportion to the extent of the mutilation. In other cases, again, the patients have borne the operation well, the wounds have healed kindly, and still, at the end of a fortnight, or perhaps a little longer, they have gradually failed without any marked change in their symptoms and have died. If a case of this sort comes to autopsy, it usually reveals a condition of pyelonephritis, and the death is perhaps sufficiently explained thereby. It is, nevertheless, a striking and suggestive fact that these patients, who have been carrying the load of partially disabled kidneys for a long time, after a slight operation, which heals kindly, gradually succumb by progressive loss of strength without any evident increase of symptoms pointing to an aggravation of the renal condition. This seems to indicate that, by the removal of the testes, the vital force of the patient has been diminished, and thus, in a measure, the theory of Brown-Séquard finds support.

Combined Vagino-abdominal Hysterectomy.—Gaston Hardy appeals in the *Annales de la Soc. Méd. Chir. de Liège*, September, for a combination of the vaginal and abdominal methods of hysterectomy. He advises that in every laparotomy it is wise to prepare for a vaginal operation also, and in every vaginal to prepare to open the abdomen if necessary. His experience seems to have been in many cases that whichever route he followed he wished he had taken the other, and he thinks that only by combining the two can the average surgeon secure the best results under certain circumstances. He advocates the removal of the uterus when both ovaries have to be ablated.

Contribution to the Physiology and Therapeutics of the Kidneys.—Several explanations have been offered for the fact that the xanthin series, caffein (trimethylxanthin), theobromin (dimethylxanthin) and monomethylxanthin, produce diuretic effects on some animals and not on others. It has been ascribed to the composition of the blood, to the diet, etc., but an extensive series of experiments by Corin described in the *Annales de la Soc. Méd. Chir. de Liége*, for September with a review of the subject in all its phases, demonstrates that the diuretic effect of caffein on the rabbit and its absence in the dog, is the result of a vagus tonus possessed by the dog and absent in the rabbit. Hence to place the two animals on a level in this respect, it is necessary to render the vagus inactive in the dog by sectioning it or paralyzing it with atropin. When this is done the caffein produces exactly the same decided diuretic effect on both animals. Corin has established the fact that excitation of the vagus itself, excluding the ramifications that extend to the heart, directly diminishes the urinary secretion. This excitation is without results if the animal has previously been intoxicated with atropin, which demonstrates that atropin paralyzes the vascular or other terminals of the pneumogastric in the kidneys, just as it paralyzes its terminals in the heart. It is therefore to be assumed that the rabbit is without this vagus tonus for the kidneys as, we know it is without it for the heart. He closes with the remark that if there is a renal vagus tonus in man, as there is in dogs, which everything tends to establish, then chloral is not to be considered the best adjuvant for caffein, but atropin or the belladonna preparations are indicated. He is now experimenting on man to confirm this assertion.

Teratogenesis.—Ballantyne remarks in the course of an article reviewing the testimony for and against the theory that maternal impressions can cause defects in the fetus resembling the impression, that it is most extraordinary in its wide extension in time and space, and its firm hold on the minds of both profession and laity. To those who wish to see it dead it is most disappointedly vital, and to those who wish to demonstrate its truth, most strikingly destitute of scientific proof. He concludes that the cases of resemblances reported are merely coincidences, but that strongly marked and prolonged mental states do affect the development of the fetus. Féré states for instance, that the children conceived during the sieges of the Franco-Prussian war can be recognized by bodily and mental stigmata so marked that they are known "enfants du siege." The results of anxiety, insufficient food, etc., are not always teratologic, but may be of the nature of sterility, abortion, congenital debility, etc. To this extent he believes in the old doctrine of maternal impressions, the one grain of truth in the immense mass of fiction, which has had a most maleficent effect on antenatal pathology. The general trend in most countries is decidedly against it, except in America. He mentions references to it in recent fiction, Egerton's "Keynotes," Cobban's "Red Sultan," Merriman's "From One Generation," Henty's "Rujub," Blackmore's "Lorna Doone," as well as in the "Merchant of Venice," "Tristram Shandy," "Fortunes of Nigel," and O. W. Holmes' "Elsie Venner."—*Edinburgh Med. Jour.*, October.

Porokeratosis.—Mibelli has recently described a new affection produced by a hyperkeratosis of the orifices of the sweat glands, which he calls porokeratosis. Dubreuilh has since had occasion to observe a case which confirms Mibelli's announcement that it is entirely distinct from lichen planus in any form. The child, 12 years old, has had lupus and the lesions in question since his first year. They are on the hand and the forearm, and have gradually extended without ever becoming inflamed, or causing pain or special inconvenience. They form an irregular track two to three centimeters wide, skipping the wrist, from the last phalanx to the elbow, consisting of hard, horny, verrucose elevations half a centimeter in height at the elbow. They drop off occasionally, but grow out again at once. The smallest are the size of the head of a pin, and are small, pale conical papules, the summit of which is formed by a small horny tip which projects from the top of the papule, from which it is quite distinct. These are the original lesions, which began on the hand. Scattered among them are a few cones from which a hair issues. The largest lesions are the size of a lentil or hemp seed, and present a central corrugated surface and a surrounding crater-like slope. The center is horny, whitish, opaque, thick and hard, separated from the crater enclosure by a narrow, deep, circular fissure. It is hard to enucleate this center, as it is tough and adherent, but when it is done or falls out spontaneously, the depth of the crater is found to be of the same horny substance. After removal of the crusts the skin underneath is found normal and soft. The general health is good. The *Arch. Clin. de Bordeaux* for August contains Dubreuilh's report with a few more details.

Acute Infectious Diseases and General Paralysis. In an interesting article in the *Archives Cliniques de Bordeaux* for August, Delmas describes the experiments that have been made by scientists in producing general paralysis, and the conclusions as to its etiology. It is almost universally admitted now that general paralysis is consecutive to syphilis in a large number of cases, which produces this effect by its toxins, as an infective disease. It has also become an established fact that acute infective diseases may be followed, after a certain interval, by a confirmed general paralysis, and still more often by forms of psychopathies such as acute delirium, mental confusion, general pseudo-paralysis, etc., presenting with more or

less completeness the clinical character and the anatomopathology of general paralysis. Infection appears thus to play an important, even the principal, rôle, in the evolution of general paralysis and similar conditions, and the query arises now whether general paralysis and the psychopathies resembling it are not essentially of infective origin. He describes one case of the kind following an attack of influenza in the epidemic of 1889, and agrees with Bannister that it is doubtful whether grief or venereal or alcoholic excesses alone could produce general paralysis, while it is unquestionable that they favor the evolution of an infective disease, and thus, indirectly, the paralysis. He mentions among others Charrin's experiment with a rabbit which he kept for four hours continuously on a rotating wheel. Examination of the blood of the fatigued and alarmed animal showed it so full of microbes that one drop alone produced 800 cultures. Widal also relates the case of a rabbit inoculated two months before with streptococci, which apparently retained his usual health until he was placed with a female, when he promptly succumbed to paralysis. Many authorities quoted consider that the acute disease merely arouses a latent paralysis, but Delmas believes that the lesions discovered in the brain after certain acute infective diseases, such as typhoid fever, measles, diphtheria, etc., by Raymond, Barlow, Popoff, Voisin, etc., produce the paralysis in the same way as the lesions consecutive to syphilis.

Free Sanatoria for Tuberculosis.—The Red Cross hospitals in Germany erected in readiness for war, are to be used as sanatoria for indigent consumptives, if the experiment now being tried with one of them proves a success. There are already seven or eight free sanatoria for this purpose in the country, but their accommodations are limited, and they are "merely a drop on hot iron" in comparison with the number of persons affected with the disease (1,200,000). In 1892 Gebhard, the superintendent of the Hanseatic Anstalt für Invaliditäts u. Altersversicherung (Sickness and Old Age Assurance), found that as a matter of business economy it was better to take charge of persons affected with tuberculosis and cure them, than to pay their indemnity in case of illness. The wisdom of this measure became more and more apparent with the increasing numbers of tuberculous persons who took advantage of the offer of the association. At first their expenses were paid at private institutions, but the association is now erecting a sanatorium of its own. The persons thus treated prevent the infection of others at their homes; they also learn the principles of hygienic living and teach them to others on their return. They are also advised in regard to change of occupation if necessary, etc. The report of 26 persons sent to Görbersdorf by an assurance association states that after an average stay of eighty-three days, 73 per cent. were able to resume their occupations; 4 per cent. conditionally, and 16 per cent. derived no benefit from their stay. The treatment was therefore successful in three-fourths of the cases. The Hanseatic association reports 226 cases treated, with success in two-thirds; 155 resumed their former occupation; 81 are known to have continued it; 17 gave up in one to nine months and 57 could not be traced. The association is more than satisfied with this showing, as if only 29.2 per cent. resume their occupations for even one year, the amount of payments thus saved covers all expenses. It is expected that as the public becomes more accustomed to the idea, more persons will apply in the incipient stages when the disease is more easily cured, and the finances of the association benefit accordingly. Dettweiler's combined report of his private and his free sanatorium shows the results of his experience with this treatment, which he considers "very satisfactory;" in 1895, 120 patients were treated, and in 10 per cent. the bacilli entirely disappeared; 24 of the rest were cured part absolutely and part relatively; 73 of the remaining 89 were improved; 9 grew worse; 2 died and 5 did not remain. The average gain in weight was ten pounds. Ascher concludes his review of what has been accomplished in various countries with the statement that nearly every canton in Switzerland is erecting a sanatorium for pulmonary affections.—*Deutsch. Med. Woch.*, September 3.

The Life of the Hospital Interne.—Dr. Charles McBurney, in a recent address, magnified the influences of hospital life in the early career of the good young surgeon. Without stopping at this time to criticize or analyze the glowing periods of the New York professor, we must say that the natural gifts of energy and industry of some of our young surgeons, without hospital privileges, will land them in a higher surgical niche than can possibly be reached by others, their more highly favored classmates, who are lacking in dash and push and wisdom. But Dr. McBurney has a right to be heard whenever he is pleased to speak upon the bringing up of good surgeons. In this connection he is reported in the *Boston Medical and Surgical Journal*, September 24, to have said: "In my opinion the most important thing in the production of a good doctor or a good surgeon, I should say, was his hospital life; that no other single part of his life compared in value to that. Whether he has his four years' course or three years' course, I look upon as comparatively unimportant. The student who has had two years' full course, and two years of good course, and then has a hospital life of two years, is, in my opinion, worth infinitely more than a student who has his four years' medical student life and no hospital experience. I would not be understood as raising a word against the increase in the number of courses, except a word of warning; but the hospital life I look upon as absolutely essential, if we would develop the fine students that we have given M.D.s to. I see that constantly year after year. They come into the hospitals as internes well provided with the fund of knowledge that is acquired by a student in a good medical college, but totally unable to apply it, totally at sea as to what they like and what they do not like, totally ignorant as to whether they are fitted for this specialty or that specialty; and I see them go out of the hospital fully developed, men that I did not expect it of in the least, fine characters, able, self-poised, ready to attack serious problems and fully prepared to become valuable members of the profession. And I look upon this as so important that I would make very large sacrifices in other directions to encourage students to have this portion of time, a year and a half or two years, allotted to them for life in a hospital. There is something about the constant contact with the patients, the constant feeling of responsibility, which is not too heavy to crush, though heavy enough to strengthen, that develops the man month after month with the greatest rapidity."

Report of the Red Cross.—According to the *Lancet*, October 3, in the thirty-three years ending July, 1896, there have been every twelve months on an average sixteen nations engaged in hostilities! On the other hand, the organization of the Red Cross has multiplied its ramifications till even such powers as Japan have fallen into line and become affiliated to the parent society, showing an example which Spain, among other countries, would have done well to follow. Having allowed the Red Cross organization to lapse shortly after the Carlist war, the Spanish government showed signs of a desire to resuscitate it, but as far as we can gather her suppression of the Cuban revolt, with all its sanguinary, not to say ferocious, incidents, has not yet been mitigated by Red Cross intervention. The most interesting feature in the present report is the anxiety Japan evinced to place her relief to the wounded on the best footing known to civilization and to make the provisions of the Red Cross available, not only for her own troops, but for those of her antagonist. Not content with the measure of success with which its Red Cross organization was worked, the Japanese government delegated M. Ariga to con-

fer at Geneva with the central authorities of the society so as still further to perfect the system which in the late war had given so satisfactory an account of itself. In marked contrast to the enlightened procedure of Japan, the Ottoman Red Cross remained inactive during all those Armenian and Cretan butcheries which have scandalized civilization, and when remonstrated with for its inhumane supineness, urged that the collisions between the Turks and their subject population being matters of domestic, not international, import, were outside the competence of the Geneva Convention. When the American Red Cross, having collected large funds for the relief of the Armenian sufferers, sought to apply them to their humanitarian purpose, it was met by the same objection as a bar to its intervention, and Miss Barton, the highly efficient and skilled president of the society's branch at Washington, visited Geneva, on her way to Armenia, so as to learn from the central authority how she could turn to the best account the relief funds placed at her disposal. She found she could apply them only by way of "private benevolence," not as an agent of the Red Cross; and the account she gives of her work, in a letter from Constantinople, is one of the most intensely interesting features of the present report. Another important section relates to the coming *réunion* of the powers which signed the Geneva Convention, a *réunion* which will take place at Vienna next year. Its predecessors have been five in number—meeting first at Paris, then at Berlin, next at Geneva in 1884, then at Carlsruhe, and finally at Rome. One feature of the Vienna meeting was to have been the extension of the Red Cross organization to the calamities of civil life—earthquakes, floods, mining explosions, conflagrations, and such like. It is understood that this proposal has encountered opposition at headquarters; but it would be interesting to know, in the probable event of its being revived, on what grounds so manifestly humanitarian a development of an essentially humanitarian society is to be postponed to the Greek Kalends.

Army Medical School.—The session of 1896-97 of the Army Medical School, Washington, D. C., begins November 4, 1896 and ends March 12, 1897. The order of duties, as announced in the program issued by Major Walter Reed, Secretary of the Faculty, calls for instruction in the pathologic laboratory, daily except Sundays, from 9 A.M. to 12 M.; in the chemic laboratory from 1 P.M. to 2:50 P.M.; and attendance at lecture 3 to 4 P.M. On Saturdays instruction in Hospital Corps drill and first aid is given at Washington Barracks, D. C., 9 A.M. to 10:15 A.M. followed by instruction in equitation at Fort Myer, Virginia, 11 A.M. to 12 M. Lectures are to be delivered as follows: On Mondays, military medicine, by Colonel D. L. Huntington; on Tuesdays, military hygiene, by Major Charles Smart; on Wednesdays, duties of medical officers, by Colonel Charles D. Alden and on Thursdays, military surgery, by Colonel W. H. Forwood. The hours for operative surgery and optometry will be anounced hereafter. Toward the close of the session Lieutenant-Colonel Geo. B. Davis, Deputy Judge Advocate General, U. S. Army, Professor of Military Law at the U. S. Military Academy, West Point, N. Y., will give a course on military law. Dr. Robert Fletcher will lecture Monday, February 8, 1897, on the Army Medical Library and the methods of utilizing it. Clinical instruction will be given on Fridays November 13 and 27 and December 11, 1896 and January 15, 1897 at the Government Hospital for the Insane, Washington, D. C. Professor C. W. Stiles of the Department of Agriculture will lecture on Fridays, beginning January 30, 1897, on Parasites in Man. There will be no exercises at the school on Sundays, Thanksgiving day, December 25 to January 1 inclusive and Washington's birthday.

Hypnotic Anesthesia.—Milne Bramwell concludes an article on this subject in the Anesthesia Jubilee number of the *Practitioner* with the remark: "The chief objection to hypnotism in surgery is the difficulty and uncertainty in the induction of the primary hypnosis. Susceptibility varies widely. Recent statistics show that about 94 per cent. of mankind can be hypnotized. With a considerable proportion, however, many preliminary attempts are necessary, and sometimes hypnosis never becomes deep enough for operative purposes. As an almost invariable rule the nervous and hysteric are the most difficult, the healthy and the well balanced the easiest to influence. Some years ago when in general practice, I could usually rapidly induce hypnotic anesthesia among my own patients. Now when my practice is confined almost entirely to those suffering from chronic nervous affections, I find it more difficult to obtain deep hypnosis with insensibility to pain. Under these circumstances, unless grave reasons existed for the non-employment of other anesthetics, I should consider it a waste of time to attempt to hypnotize a patient for operative purposes alone. Apart from this, hypnosis possesses many advantages: 1. Once deep hypnosis with anesthesia has been obtained, it can be immediately reinduced at any time. 2. No repetition of any hypnotic process is necessary, the verbal order to go to sleep being sufficient. 3. The hypnotizer's presence is not essential. The patient can be put in touch with the operator by written order, or by other means previously suggested during hypnosis. 4. No abstinence from food or other preparation is requisite. 5. Nervous apprehension can be removed by suggestion. 6. Hypnosis is pleasant and absolutely devoid of danger. 7. It can be maintained indefinitely and terminated at will. 8. The patient can be placed in any position without risk, a not unimportant point in operations on the throat and mouth, and will alter that position at the command of the operator. Gags and other retentive apparatus are unnecessary. 9. Analgesia alone can be suggested and the patient left sensitive to other impressions—an advantage in throat operations. 10. In labor cases, the influence of the voluntary muscles can be increased or diminished by suggestion. 11. There is no tendency to sickness during or after the operation, a distinct gain in abdominal cases. 12. Pain after operation, or during subsequent dressings, can be entirely prevented. 13. The rapidity of the healing process, possibly as the result of the absence of pain, is frequently very marked. He adds that numerous operations during hypnotic anesthesia have recently been reported. The following are a few examples. France: Dr. Schmeltz, carcinoma of breast; Dr. Bourdon, uterine fibroid; Dr. Taillaux, colporrhaphy. Germany: Dr. Grossmann, fractures and dislocations. Sweden: Mr. Sandberg, dental operations. Switzerland: Professor Forel, cataract. Cuba: Dr. Diaz, dental operations. America: Dr. Wood, necrosis of humerus. Holland: Drs. Van Eeden and Van Renterghem, dental operations. Many painless confinements, mostly primiparous, have been recorded in France by Drs. Mesnet, Dumontpallier and Fanton; in Germany by Dr. Von Schrenk-Notzing; in Austria by Dr. Prtizl; in Belgium by Professor Fraipont; in Switzerland by Dr. Dobrovolsky; in Sweden by Dr. Wetterstrand; in England by Dr. Kingsbury, etc.

Hospitals.

PLANS for the New St. Alexis Hospital at Cleveland, Ohio, are now completed and the ground has been broken.——The monthly report of the Rochester (N. Y.) city hospital shows the number of patients admitted during the month of September, 72; discharged 60; deaths 9; remaining in hospital 70.——In the will of Maria G. Carr, the testatrix provides that $20,000 of her estate shall go to the Presbyterian Hospital of Chicago, for the purpose of erecting an annex to be known as the "Dr. Wilson Carr Memorial." $2,000 is to go to the Home for the Friendless, $100 to the Humane Society, and $1,000 to the Chicago Historical Society.——The board of governors of St. Mary's Hospital at Passaic, N. J., have decided to modify the

plans for the proposed new hospital on account of the exceedingly high bids received from various contractors.

Washington.

WEEKLY REPORT OF THE HEALTH OFFICER.—The weekly report of the health officer for the week ended October 24 is as follows: The health of the city underwent an improvement of 5 per cent. during the past week as compared with the week previous. The deaths as reported at the health department were 110, with a death rate of 20.37. In the week before they numbered 116, with a rate of 21.48, and in the same period last year 119, with a rate of 22.46. The mortality from typhoid fever fell from 10 to 3, and that among children under 5 years old from 35, with a rate of 0.12, to 25, with a rate of 0.09, while that from diphtheria increased from 5 to 8. Except these no disease was prevalent in noticeable form. Acute lung diseases remained stationary; heart and kidney affections showed a moderate increase and brain disorders a corresponding increase. New cases of diphtheria 12, cards removed 14, remaining 28; scarlet fever 4 new cases, no cards removed and 8 remaining.

PUBLIC HEALTH COMMITTEE.—At the meeting of the Committee on Public health of the Washington Board of Trade held recently, the committee agreed to adopt and recommend the report of last year. The chairman of the committee, Dr. S. C. Busey, called attention to the fact that the board of trade as a board did not secure the adoption of any of the recommendations of last year, but that the medical practice act, the milk act and the act requiring the connection of all houses with sewer and water, had been passed through the exertions of the Public Health Committee of the Medical Society. Dr. Busey is chairman of that committee also.

DECISION IN THE CASE OF ALLEGED VIOLATION OF THE MILK REGULATIONS.—Judge Kimball on the 31st ultimo rendered his decision in the case of a dairyman charged with violating the milk regulations which were made by the District Commissioners. It was charged that he failed to keep his cows clean and that he also failed to provide the feeding boxes required by the regulations. The point had been raised that the commissioners had not the power to make the regulation. The proof was heard several days ago, and the court held that the commissioners had exceeded their authority in requiring that certain troughs and feeding boxes should be used. The court held, however, that the commissioners had the right to require dairymen to keep their cows clean and suspended execution of sentence in the case.

THE EPISCOPAL EYE, EAR AND THROAT HOSPITAL.—A meeting was called on the 26th ultimo to organize an ear and throat hospital under Episcopal auspices. Dr. E. O. Belt read an appeal for such an institution signed by Drs. Samuel C. Busey, J. Ford Thompson, Thomas C. Smith, G. Wythe Cook, William W. Johnston, Frank Hyatt, George N. Acker, N. S. Lincoln, William H. Hawkes, Robert Reyburn, H. C. Yarrow, T. Morris Murray, R. W. Baker, C. D. Hagner, Henry D. Fry, John H. Mundell, T. B. Hood, J. H. Bryan, J. Taber Johnson, William Mercer Sprigg, William H. Fox, S. S. Adams, W. Lindin Bowen, T. V. Hammond, I. C. Rosse, J. S. McLain, W. H. Wilmer, John Van Rensselaer and E. Oliver Belt. The members present adopted the project and the board of governors and managers will consist of several members from each Episcopal church in the District of Columbia; the first medical board to comprise Drs. T. Morris Murray, J. H. Bryan, William H. Fox, William H. Wilmer, Frank Hyatt and E. Oliver Belt. There are also to be three consulting physicians, Drs. S. C. Busey, W. W. Johnston and J. Taber Johnson, and three consulting surgeons, Drs. N. S. Lincoln, J. Ford Thompson and J. W. Bayne. There will be an indoor and outdoor department, the latter a free dispensary, open daily except Sunday. The indoor department will be the hospital proper, with beds for those requiring operations and special nursing. The institution is to be supported by annual subscribers, and memorial beds may be endowed by persons who are anxious to perpetuate a good charity in commemoration of a departed relative.

ESTIMATE FOR THE HEALTH DEPARTMENT FOR THE ENSUING YEAR.—For the health department for the ensuing year the commissioners recommend an increase of six clerks, two of whom shall act as sanitary inspectors and food inspectors at $1,200 each per annum. Six additional sanitary and food inspectors, who shall also supervise the collection of garbage and dead animals, are estimated for at $900 each. A new engineer for the smallpox hospital at $900 is asked, as well as a clerk, who shall be a physician and act as chief of inspectors and deputy health officer at $1,800 per annum. A sanitary and food inspector to assist the chemist at $600 is urged, and $500 is asked for the support of the chemic laboratory. For the enforcement of the provisions of the act to prevent the spread of scarlet fever and diphtheria $6,000 additional is asked, making a total appropriation of $11,000. For the establishment and maintenance of a bacteriologic laboratory the commissioners estimate $5,000. The commissioners renew their estimate of last year of $15,000 for the disposal of the general refuse of the city. An estimate of $50,000 for the purchase of a site for a hospital for minor contagious diseases is urgently recommended, and $25,000 is asked for the erection of a hospital for the treatment of scarlet fever and diphtheria.

Support for the Poor of Paris.—The annual budget for the Assistance Publique amounts in round numbers to the large sum of $8,000,000. Of this amount the surgical and medical personnel receives $200,000.

THE PUBLIC SERVICE.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Oct. 24 to Oct. 30, 1896.

The following named recently appointed Asst. Surgeons will repair to Washington, D. C., and report in person Nov. 4, 1896, to the president of the Army Medical School, for the course of instruction prescribed in general orders No. 78, Sept. 22, 1893, from A. G. O.: First Lieut. Basil Hicks Dutcher, First Lieut. Leigh Austin Fuller, First Lieut. Franklin Middleton Kemp, First Lieut. George Alfred Skinner, First Lieut. Carl Roger Darnall, First Lieut. William Evans Richards.

Change of Address.

Battell, J. G., from Haymarket Thea. Bldg., to cor. Grand and Western Aves., Chicago.
Carson, J. R., from Henderson to Waverly Place, Nashville, Tenn.
Cody, E. T., from Chicago, Ill., to Tucson, Ariz.
Earll, R. W., from Columbus to 1015 Cedar Street, Milwaukee, Wis.
Hayes, H. L., from 1416 Rhode Island Avenue, to 113 First Street, N. E. Washington, D. C.
Lyen, J. B., from Kirkwood to Salvisa, Ky.; Lebensohn, M. H., from Chicago, Ill., to Sunbright, Tenn.
Moses, T. F., from Urbana, Ohio, to Worcester Lane, Waltham, Mass.
McBride, M. A., from Leesville, Texas, to New Orleans, La.
Winterberg, W., from 1132 to 1208 Sutter Street, San Francisco, Cal.
Wunderlich, F. W., from 145 State Street to 165 Remsen Street, Brooklyn, New York.

LETTERS RECEIVED.

Abbott Alkaloid Co., Chicago, Ill.; Ashmead, A. S., New York, N. Y.
Bailey, William Curtiss, Las Vegas, N. M.; Brown, F. F., Advertising Agency, New York; Bishop, W. T., Harrisburg, Pa.; Baker, Philip S., Greencastle, Ind.; Beegle, H. B., Blue Island, Ill.
Columbus Phaeton Co., Columbus, Ohio; Cook, S. E., Lincoln, Neb.; Craig, G. G., Rock Island, Ill.
Dvorak, W. J., Chicago, Ill.
Fenn, C. M., San Diego, Cal.; Fehr, Julius, Hoboken, N. J.
Haralson, H. H., Biloxi, Miss.; Hummel, A. L., Adv. Agency, New York, N. Y.; Hannam, A., London, England; Heidner, G. A., West Bend, Wis.
Kreider, George N., Springfield, Ill.
La Semaine Medicale, Paris, France.
Merrick, M. B., Passaic, N. J.; Moyer, Harold N., Chicago, Ill.; Manley, Thos. H., New York, N. Y.; Mulford, H. K., Co., Philadelphia, Pa.; McAllister, E. B., Terre Haute, Ind.; Mechem Investment Co., Colorado Springs, Colo.; Mather, A., Paterson, N. J.
Oakland Chemical Co., New York, N. Y.; Open Court Publishing Co., Chicago, Ill.
Risley, S. D., Philadelphia, Pa.; Rothgeb, H. D., East Lynn, Ill.
Savage, G. C., (2) Nashville, Tenn.; Steiger, E. & Co., New York, N. Y.; Spencer, John C., San Francisco, Cal.
Thomas, John D., Washington, D. C.; Tyson, James, Philadelphia, Pa.; Team, J. W., Ridgeway, S. C.
Wile, William C., Danbury, Conn.; Winslow, Chas. E., Los Angeles, Cal.; Witherspoon, T. C., St. Louis, Mo.; Whitmire, Z. L., Urbana, Ill.